

Faculty  
Room

Dated : 1910-11  
Annual Calendar  
of the University  
of Alberta : : : :



Session of 1910 - 1911  
Examination Papers 1909-10

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Third : : : : :  
Annual Calendar  
of the University  
of Alberta : : : :

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Session of 1910-1911



ACADEMIC CALENDAR, 1910-1911.

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*September Matriculation Examinations*, begin Wednesday

September 21st.

*Registration Day*, Wednesday September 28th.

*Lectures begin, First Term*, Wednesday September 28th.

*Christmas Vacation* begins Thursday, December 22nd.

*Christmas Vacation* ends Wednesday January 4th.

*Final Examinations, First Term*, begin Monday January 23rd.

*Lectures begin, Second Term*, Thursday February 3rd.

*Easter Vacation* begins, Thursday April 13th.

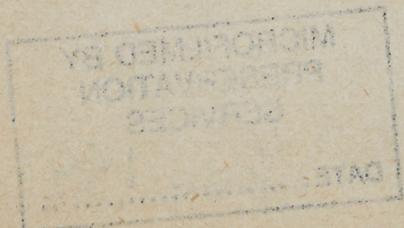
*Easter Vacation*, ends, Monday April, 17th.

*Founder's Day*, May 9th.

*Empire Day*, May 23rd.

*Final Examinations, Second Term*, begin Tuesday, May 18th.

Last day for receiving applications for Supplemental Examinations, Sept. 1st.



# Governing Body of the University of Alberta.

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## VISITOR.

HON. GEORGE HEDLEY VICARS BULYEA, B.A., LL.D.  
*Lieutenant-Governor of Alberta.*

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## CHANCELLOR.

HON. MR. JUSTICE STUART, B.A., LL.B.

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## SENATE.

### Ex-Officio Members.

HON. CHARLES RICHMOND MITCHELL, B.A., B.C.L.  
*Minister of Education.*

HON. MR. JUSTICE STUART, B.A., LL.B.,  
*Chancellor.*

HENRY MARSHALL TORY, M.A., D.Sc., LL.D., F.R.S.C.  
*President of the University.*

### Appointed Members.

HON. MR. JUSTICE BECK, LL.B.,  
*Vice-Chancellor.*

REV. J. H. RIDDELL, B.A., D.D.	R. B. BRETT, M.D.
R. J. HUTCHINS, Esq.	J. A. McDougall, Esq.
P. J. NOLAN, B.A., K.C.	J. J. GAETZ, Esq.
O. BOYD, M.D., C.M.	E. K. STRATHY, Esq.
W. S. GALBRAITH, M.D., C.M.	

### Elected Members.

TRENHOLME DICKSON, B.A., B.C.L.	W. D. FERRIS, M.B.
J. McCAG, M.A., LL.B.	R. S. JENKINS, M.A.
G. HARCOURT, B.S.A.	

*Secretary of the Board, HAROLD W. RILEY, Esq.*

## Standing Committees of the Senate.

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### Executive Committee.

HON. MR. JUSTICE STUART, *Chairman.*

PRESIDENT TORY.

HON. MR. JUSTICE BECK.

JOHN A. McDougall, Esq.

DR. W. D. FERRIS.

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### Finance Committee.

JOHN. A. McDougall, Esq., *Chairman.*

PRESIDENT TORY.

DR. J. H. RIDDELL.

JAMES McCaig, Esq.

E. K. STRATHY, Esq.

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### Building and Grounds Committee.

PRESIDENT TORY, *Chairman.*

HON. MR. JUSTICE BECK.

DR. W. D. FERRIS.

DR. J. H. RIDDELL.

JAMES McCaig, Esq.

PROF. W. MUIR EDWARDS.

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### Committee on College Affiliation.

PRESIDENT TORY, *Chairman.*

HON. MR. JUSTICE BECK.

DR. J. H. RIDDELL.

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### Committee on Discipline

PRESIDENT TORY, *Chairman.*

HON. MR. JUSTICE BECK.

DR. W. D. FERRIS.

PROF. W. H. ALEXANDER.

## Officers of Instruction.

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### Faculty of Arts and Science.

HENRY MARSHALL TORY, M.A., D.Sc., LL.D. (McGill), F.R.S.C.  
*President.*

WILLIAM HARDY ALEXANDER, M.A. (Toronto), Ph.D.  
(California)  
*Professor of Classics.*

EDMUND KEMPER BROADUS, M.A. (Chicago), Ph.D. (Harvard)  
*Professor of English Language and Literature.*

WILLIAM MUIR EDWARDS, M.Sc. (McGill)  
*Professor of Civil and Municipal Engineering*

WILLIAM ALEXANDER ROBB KERR, M.A. (Toronto), Ph.D.  
(Harvard).  
*Professor of Modern Languages.*

JOHN MALCOLM MAC EACHRAN, M.A. (Queen's), Ph.D. (Leipzig)  
*Professor of Philosophy*

ADOLPH LEHMAN, B.S.A. (Guelph), Ph.D. (Leipzig)  
*Professor of Chemistry*

HON. MR. JUSTICE STUART, M.A., LL.B. (Toronto).

*Special Lecturer in Constitutional History*

Ernest W. Sheldon M.A. Ph.D.

*Assistant Professor of Mathematics*

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*Lecturer in Classics*

Barker Failey M.A. Ph.D.

*Lecturer in Modern Languages*

Eric E. Race, B.A.

*Registrar*

EUGENIE ARCHIBALD, B.A.

*Librarian*

## General Announcement

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The third session of the University of Alberta will begin on September 28th, 1910. Courses are offered leading to the degrees of B.A. and B.Sc. in Arts, and B.Sc. in Applied Science. In the session of 1910-1911 courses will be given in all the four years of Arts, and in the first and second years of Applied Science.

## General Information

The University of Alberta was created by an Act of the Legislature of the Province passed at the First Session after Provincial Autonomy had been granted (1906); that is, the Act created the machinery by which the University could be brought into existence. By the Act the University, which consists of the Chancellor, Vice-Chancellor, the Senate and the Convocation, was empowered to undertake the organization and development of the teaching faculties, to affiliate colleges, and, generally, to undertake all the work relating to an institution of higher learning. An amendment to the Act, passed during the Session of the Legislature in 1907, authorized the Lieutenant-Governor-in-Council as a preliminary step to the organization of the University, to appoint the first President, to whom was to be given the responsibility, in conjunction with the Senate, of organizing and developing the University scheme. Acting upon this authority the Government selected the first President, who entered upon his duties on January 1st 1908.

Under the Act, all resident graduates of British and Canadian Universities became members of the Convocation of the University of Alberta by registering before a fixed date. Three hundred and sixty-four graduates, representing all the Canadian and many of the British Universities, registered, so

that a large and representative body constituted the first Convocation.

The Act provided that the Senate should be the governing body, both in relation to education and business management.

The Senate consists of fifteen members, five of whom are elected by ballot by the members of the Convocation from among themselves, the remaining ten being appointed by the Government. The Chancellor is also elected by ballot by the University Convocation.

The voting for the first election to the Senate closed on March 18th 1908, and immediately afterwards the ten members, whom the Act required the Government to appoint, were appointed.

The first meeting of the Senate was held on Monday, March 30th, 1908. At this meeting it was decided to undertake the organization of the first Faculty to be known as the Faculty of Arts and Sciences, and to open the University of Alberta for classes in this Faculty in September, 1908.

At the second meeting of the Senate held in Calgary, July 6th, 1908, the first faculty appointments were made, four professors being named to co-operate with the President in the work of commencing instruction.

The First Session of the University opened on September 23rd 1908. The total registration for the Session was forty-five, four of whom were students taking graduate courses in the Department of Physics.

The Second Session of the University opened on September 28th 1909. The total registration was one hundred and three, including eleven graduate students.

The University site is in the City of Strathcona immediately across the Saskatchewan River from Edmonton, and just opposite the Legislative Buildings. It consists of two hundred and fifty-eight acres of land with a frontage on the river of twenty one hundred feet and an elevation above the valley of about two hundred feet. Upon this site there are two buildings now under process of construction. One of these is the Arts Building. It is intended for teaching purposes only. It will be a thoroughly modern fireproof stone building,

three stories high, of Collegiate Gothic design. Its over all length is 308 feet. The main portion, 220 feet long by 70 feet wide, is flanked on either end by wings 114 feet long by 40 feet wide. In the rear, on the centre line is a Convocation Hall 92 feet long by 60, with a seating capacity of 1,000 persons.

The other building under construction is the first residence building. It will be partially employed for class-room purposes until the Arts Building is completed. This building will be ready for use for the session of 1910-11.

Under the University Act, power is given the Senate to bring into the University scheme affiliated colleges. Alberta College, the theological training school of the Methodist Church, has already availed itself of this privilege and has been assigned a building site on the University grounds. On this site is being erected a building which will be used for teaching purposes and also as a residence for students.

### Courses leading to Degrees

The undergraduate courses leading to degrees extend over four sessions of two terms each. The work of each term is so arranged as to be complete in itself. A student compelled to be absent during the second term of any year may join the classes in the second term of any subsequent year.

In the Faculty of Arts and Sciences courses are offered leading to the degrees of B.A. and B.Sc. in Arts, and of B.Sc. in Applied Science. The courses of study, so far as arranged, are given on pages 28 to 50.

### The Matriculation Examinations

Two Matriculation Examinations are held during the year, one in July and one in September. The Examination in July for 1910 begins July 4th, and is held at all the High School centres throughout the Province of Alberta. Local Examinations may be held elsewhere, either within or without the Province, if application for the same be made before June 1st. The September Examination is held at the University

only, and for the present year begins September 21st.

All enquiries concerning these examinations should be addressed to the President, University of Alberta, Strathcona, Alberta.

### Students

The courses of study in the University leading to degrees in Arts are open to men and women on equal footing.

Except under special circumstances no student under sixteen years of age will be admitted to the first year, or under seventeen to the second year.

Students are classified as Undergraduates, Conditioned Students and Special Students.

**Undergraduates** are matriculated students who are pursuing a full undergraduate course of study leading to a degree. In order to become undergraduates, candidates must have passed the full matriculation examination of the University or some other examination accepted in lieu thereof. (See page 17).

**Conditioned Students** are those who, not having completed their matriculation examination are, by permission of the Faculty, pursuing a full undergraduate course of study leading to a degree, and are entitled to obtain undergraduate standing on completing their matriculation. Candidates who present certificates of having passed Standard VII or VIII of the Province of Alberta, or an equivalent, but have not taken all the subjects required for matriculation, may enter as conditioned students. The admission of a candidate failing in any part of his matriculation examination shall be at the discretion of the Faculty.

For students who are deficient in the language subjects and are admitted as conditioned students, special preparatory classes will be temporarily provided.

**Special Students** are those who, not belonging to one of the above classes of students, are pursuing the study of particular subjects. Such students may, subject to the approval of the Faculty, attend classes without previous examination.

### Second Year Entrance

Students who have passed Standard VIII of the School Course of the Province of Alberta or the corresponding examination of any other Province of Canada may enter the Second Year and so complete the course for the B.A. Degree in three years; provided, however, that the courses from which they receive exemption on account of such Certificate together with the courses passed after entering the University shall be the full number of courses required for the degree and shall include the compulsory subjects.

### Admission Ad Eundem Statum

Any student of another University wishing to be admitted to this University with equivalent standing is requested to send with his application :

1st. A calendar of the University in which he has studied;

2nd. A complete statement of the Course of Study he has followed;

3rd. A certificate of standing and conduct from the University in which he has studied.

### Matriculation Requirements

1. Every candidate for the Matriculation Examination is required to fill up an Application Form and return the same to the Registrar of the University two weeks before the Examination. Blank forms may be had on application.

The subjects for matriculation are:

Group A :—Required of all candidates.

1. English (Literature, Rhetoric, Grammar).
2. History.
3. Arithmetic.
4. Algebra, Part I.
5. Geometry, Part I.

Group B:—Required, in addition to group A, of candidates who desire to proceed to the B.A. degree:—

6. Latin.
7. French or German.\*
8. One of the following:—Greek, German or French (the one not already chosen, Physics, Chemistry).

Group C:—Required, in addition to group A, of candidates who desire to proceed to the B.Sc. degree in Arts:—

6. French.
7. German.
8. Physics or Chemistry or Latin.

Group D:—Required, in addition to group A, of candidates who desire to proceed to the B.Sc. degree in Applied Science:—

6. French or German or Latin.
7. Algebra, Part II.
8. Geometry, Part II.
9. Trigonometry.
10. Chemistry or Physics.

For students who wish to take the B.Sc. degree in Applied Science, but who have not passed the Mathematical subjects under group D, a special course is provided. See p. 44.

**Requirements in the subjects of the Matriculation Examination.**

**English:—**

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\* Students enrolling through a theological college in affiliation may substitute Greek for subject 7.

(a) *Grammar.*

The main facts in the development of the Language, Etymology and Syntax, including the logical structure of the sentence, and the inflection, classification, and elementary analysis of words.

Text-book: The High School Grammar, Revised Edition.

(b) *Rhetoric.*

The rhetorical structure of the sentence and paragraph. Candidates will write a short essay on a subject to be given at the time of examination. (See also composition requirements under the Department of English).

The examination in spelling and punctuation will consist of a selection of English prose reproduced by the candidate from oral dictation. Textbook: Sykes' Elementary Composition. (The Copp Clark Co.)

(c) *Literature.*

Every candidate is required to pass an examination based on the following texts. Precise knowledge of the subject matter and a reasonable acquaintance with form will be expected.

Scott's Lady of the Lake (Riverside Literature Series — Rolfe's ed., Houghton, Mifflin & Co.). Coleridge: The Ancient Mariner; Wordsworth. Michael, Influence of Natural Objects, Nutting, Expostulation and Reply, The Tables Turned, The Solitary Reaper, Ode to Duty, Elegiac Stanzas, To the Rev. Dr. Wordsworth, "She was a Phantom of Delight," To the Cuckoo, The Green Linnet, "Bright flower! whose home," To a Skylark ("Ethereal Minstrel! pilgrim of the sky!"), Reverie of Poor Susan, To my Sister, "Three years she grew," September, 1819, Upon the same occasion, and the following twelve sonnets: "Two Voices are

there," "A flock of sheep that leisurely," "Earth hath not anything," "It is not to be thought of." "Fair Star of evening," "O friend, I know not," "Milton thou shouldst," "When I have borne in memory," "Brook, whose society," "Scorn not the sonnet," "Tax not the royal saint," "They dream not of a perishable home," (W. J. Gage & Co., Copp, Clark Co., or Morang Educational Co.); Shakspere's Merchant of Venice (Rolfe's ed.—American Book Co.).

In addition to the above the candidates will also be examined on the following texts, a general knowledge of the subject-matter being expected.

Scott's Ivanhoe (MacMillan's Pocket Classics); Irving's Rip Van Winkle (Ten Cent Classics — Educational Publishing Co., Boston); Longfellow's Courtship of Miles Standish (MacMillan's Pocket Classics). Scott's Talisman (MacMillan's Pocket Classics); George Eliot's Silas Marner (Cassel's National Library, Copp, Clark Co.); Arnold's Sohrah and Rustum (Ten Cent Classics—Educational Publishing Co., Boston); Tennyson's Idylls of the King (MacMillan's Pocket Classics).

For the foregoing list of English texts candidates may substitute the requirements for Standards VI and VII of the school course as authorized by the Department of Education of the Province of Alberta.

### History.

The outlines of British History from 1066 to the present.  
The outlines of Canadian History.

The outlines of general European History from the beginning of the Renaissance to the end of the French Revolutionary period.

### Arithmetic:

All the ordinary rules, including Square Root and a knowledge of the Metric System.

**Algebra, Part I:**

Definitions, elementary rules, simple equations of one, two and three unknown quantities, problems, factoring, highest common factor, least common multiple, fractions, equations with fractions, quadratic equations, simultaneous equations of the second degree, powers and roots, indices, surds; as in Tory and Birchard's Elements of Algebra or C. Smith's Elementary Algebra.

**Algebra, Part II:**

The three progressions, ratio, proportion, variation, permutations and combinations, binomial theorem, logarithms.

Text books as above.

**Geometry, Part I:**

Euclid, Books, I, II and III; deductions. Todhunter and Loney's Euclid or Hall and Steven's Euclid.

**Geometry, Part II:**

Euclid: Book IV; definitions of Book V; propositions 1 to 19 and 33 of Book VI; deductions. Text Books as above.

**Trigonometry:**

Elements of Plane Trigonometry; as in Murray's Plane Trigonometry.

**Physics:**

Merchant and Fessenden's High School Physics, Part I Revised Edition (The Copp, Clark Co.), or an equivalent.

**Chemistry:**

Mill's Chemistry for Schools (Gage & Co.).

**Latin :**

(The Roman method of pronunciation is prescribed).

Grammar. Accidence: syntactical usages, especially Indirect Narration, the Gerund and Gerundive, Clauses of Purpose and Result, Noun Clauses, Time Clauses, Conditional Clauses, the Ablative Absolute.

Prose Composition. Translation into Latin of phrases and sentences to illustrate the above points.

Sight Translation from easy Prose Authors.

Prescribed Texts: Caesar, Bellum Gallicum, Book IV, 20-38, and Book V, 1-23; Virgil, Aeneid II, 1-505.

**Greek :**

Grammar. Translation at Sight and Prose Composition. The Composition will consist of easy sentences based on the prescribed texts, selected to illustrate Greek Accidence and the common rules of Syntax. Grammatical questions on passages from the prescribed text and such other questions as naturally arise from the text will be set.

Text: Xenophon, Anabasis I (as in White's First Greek Book).

**French :**

Grammar. Accidence and Syntax including translation of simple English sentences to test the candidate's familiarity with Elementary Grammar. Sight translation from modern French authors. Special study of the following selections.

Lamennais, Paroles d'un Croyant, Chapters VII and XVII; Perrault, Le Maître Chat ou Le Chat Botté; Dumas, Un Nez Gelé, and La Pipe de Jean Bart; Daudet, La Dernière

Classe, and La Chèvre de M. Seguin; Legouvé, La Patte de Dindon; Pouvillon, Hortibus; Loti, Chagrin d'un Vieux Forçat; Molière, l'Avare, Acte III, Sc. 5 (Est-ce à votre Cocher ..... sous la mienne); Victor Hugo, Waterloo, Chap. IX; Rouget de l'Isle, La Marseillaise; Arnault, La Feuille; Chateaubriand, L'Exilé; Théophile Gautier, La Chimère; Victor Hugo, Extase; Lamartine, L'Automne; De Musset, Tristesse; Sully-Prudhomme, Le Vase Brisé; La Fontaine, Le Chêne et le Roseau.

Labiche, Le Voyage de Monsieur Perrichon.

**German :**

Grammar. Accidence and Syntax including translation of simple English sentences to test the candidate's familiarity with Elementary Grammar. Sight translation from Modern German Authors. Special study of the following selections:

Grimm, Rotkäppchen; Anderson, Wie's der Alte macht, Das neue Kleid, Venedig, Rothschild, Der Bär; Ertl, Himmelsschlüssel; Frommel, Das eiserne Kreuz; Baumbach, Nicotiana, Der Goldbaum; Heine, Lorelei, Du bist wie eine Blume; Uhland, Schafer's Sonntagslied, Das Schloss am Meere; Chamisso, Das Schloss Boncourt; Claudius, Die Sterne, Der Riese Goliath; Goethe, Mignon, Erlkonig, Der Sanger; Schiller, Der Jüngling am Bache.

Bumbach, Waldnovellen.

**EQUIVALENT EXAMINATIONS**

Certificates of having passed the whole or at least one-half of the subjects of any of the following examinations will be accepted pro tanto.

Province of Alberta: The Standard VII and VIII examinations.

Province of Saskatchewan: The Standard VII and VIII examinations.

Province of Manitoba: The Second Class Non-Professional Teacher's Certificate.

Province of Ontario: The Junior and Senior Teacher's Certificate examinations. The Junior and Senior Matriculation examination.

Province of Québec: The Associate in Arts examination.

Province of New Brunswick: The examinations for Superior and Grammar School Licenses.

Province of Nova Scotia: The Leaving examination, Grades XI and XII.

Newfoundland: The Intermediate and Associate examinations.

Province of Prince Edward Island: The Leaving examination of Prince of Wales College. The examination for First Class Teacher's Licenses.

Province of British Columbia: The Junior, Intermediate and Senior Grade examinations.

Great Britain: The local examinations of the leading Universities and the leaving examinations of the Scotch Education Department.

Applications for exemptions from the Matriculation Examination, based on Certificates other than those mentioned above, will be considered on application.

### SCHOLARSHIPS

The following Scholarships are offered:

At the July examinations, 1910:

Four Scholarships of \$50 each, donated by the Senate of the University.

At the term examinations, 1911:

Two John A. McDougall Scholarships of \$50 each, donated by John A. McDougall, Esq., of Edmonton.

One scholarship of \$50, donated by the Alberta Women's Association. This scholarship will be awarded to the woman student who takes the highest standing in the work of the First Year, provided, however, that an average of not less than seventy-five per cent. be obtained on the work of

the year to secure the award. Further, the award will be contingent upon the student's proceeding with the work of the Second Year and will be paid only after the student has been in actual attendance on the Second Year of her course.

The July Scholarships will be awarded on the results of the Standard VII examinations set by the Provincial Department of Education in conjunction with the Professors of the University. Candidates from private schools may also compete.

Competing candidates must pass on the whole of the Matriculation Examination.

The scholarships for the term examinations will be awarded to those students of the First Year making the highest general average on the work of the two terms; provided, however, that such students obtain a standing satisfactory to the Faculty.

## UNIVERSITY REGULATIONS

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### I.—FEES.

#### I.—In Arts:

##### (a) Undergraduate and Conditioned Students:

Matriculation Fee .....	.....	.....	\$ 5.00
For Instruction per Term .....	.....	.....	10.00
For Students' Council .....	.....	.....	2.00

##### (b) Special Students:

Registration Fee .....	.....	.....	2.00
For Instruction per Term per Course .....	.....	.....	3.00

##### (c) Graduates:

Course for M.A. .....	.....	.....	10.00
Course for M.Sc. .....	.....	.....	10.00

**II.—In Applied Science:**

(a)	Undergraduates and Conditioned Students:	
	Matriculation Fee . . . . .	5.00
	For Instruction per Term . . . . .	20.00
	For Students' Council . . . . .	2.00
(b)	Special Students:	
	Registration Fee . . . . .	4.00
	For Instruction per Term per Course	6.00

**III.—For Degrees:**

B.A. Degree . . . . .	5.00
B.Sc. in Arts . . . . .	5.00
B.Sc. in Applied Science . . . . .	10.00
M.A. Degree . . . . .	10.00
M.Sc. Degree . . . . .	10.00

**Caution Money.**—Every student is required to deposit \$5.00 caution money to cover damages done to furniture, apparatus, books, etc. This amount less deductions (if any) will be returned at the end of the session.

**IV.—For Supplemental Examinations.**

Per subject . . . . .	1.00
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**II.—REGISTRATION**

On or before the day set apart for the beginning of any Term, students must present themselves at the University Office for the purpose of registering for that Term and for the payment of the Term Fees. Each student will be given a registration ticket which will admit him to the University Classes. No student will be admitted to the University Classes without such registration ticket.

**III.—DISCIPLINE**

All students are expected to submit themselves cheerfully to the Statutes, Rules, Regulations and Ordinances of the University and no student will be permitted to continue in

attendance at the University whose presence for any cause is deemed by the Senate prejudicial to the interests of the University.

#### IV.—ATTENDANCE

(a) Punctual attendance at all Classes is required of each student. Absence from lectures can be excused only by necessity or duty of which proof must be given to the Faculty. No student will be permitted to come up for the Term Examination who has not attended seven-eighths of the lectures in each Course; but excuses on the ground of sickness or domestic affliction will receive special consideration by the Faculty.

(b) A record of attendance at lectures shall be kept by each Professor or Lecturer, who will report to the Faculty, from time to time, as required, all cases of non-attendance.

(c) Lateness, inattention, neglect of study, or disorderly conduct in the class-room will not be countenanced. In the case last mentioned, students may be required by the Professor or Lecturer to leave the room. Persistence in such offences shall, after admonition by the Professor, be reported to the President of the University, who may suspend from Classes pending the action of the Discipline Committee of the Senate.

#### V.—SESSIONAL EXAMINATIONS

(a) Two final examinations are held each year, one at the close of each term.

(b) In Junior Courses there will be in addition two one hour tests in each subject during the term. The marks obtained in these tests will be reckoned along with those obtained in the term examinations in determining the standing

of students at the end of each term. In reckoning standing in Junior Courses one-third the credit in each subject will be assigned to these tests, and two-thirds to the final examinations.

(c) In Senior Courses there will be a mid-term test of two hours' duration in each subject. In reckoning standing in Senior Courses one-fourth the credit in each subject will be assigned to this mid-term examination, and three-fourths to the final examination.

#### VI.—RESIDENCE

Beginning with October, 1910, the University expects to be able to accommodate in its new residence students coming from outside points. Provision will here be made for a comfortable home life at the lowest possible charges.

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### *Courses in Arts*

#### I.—Leading to the B.A. Degree.

The courses of study in the University leading to the B.A. degree are divided into two groups:—Junior Courses and Senior Courses. The Junior Courses are designed for students in the First and Second Years, the Senior Courses for the Third and Fourth Years. The Junior Courses are, in general, to be regarded as preparatory to the Senior Courses.<sup>1</sup>

To obtain the B.A. Degree, a student must pass at least ten Junior Courses<sup>1</sup> and eight Senior Courses. In selecting

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<sup>1</sup> A course is to be regarded as designating normally three hours of instruction in a subject each week.

subjects from the Junior Courses, the student must confine himself to certain well-defined groups with few options; in selecting from the Senior Courses, the student is left largely to his own discretion, the Elective System being introduced.

Except by special permission of the Faculty, students will not be permitted to enter upon their Senior Courses until they have satisfied all the requirements of the Junior Courses.

#### **Junior Courses.**

The subjects of study in the Junior Courses are as follows:

#### **A.—FIRST YEAR.**

- 1.—**English Literature and Composition.** (4 hours)
- 2.—**History** (1 hour)
- 3.—**Latin** (3 hours)
- 4.—**French or German** (3 hours)
- 5.—**Mathematics** (3 hours)
- 6.—**Physics** (2 hours)

#### **B.—SECOND YEAR.**

- 1.—**English** (3 hours)
- 2.—**History** (3 hours)
- 3.—**Latin** (3 hours)
- 4.—**The modern language selected in First Year**  
(3 hours)
- 5.—**Philosophy or Chemistry or Biology** \* or  
**Mathematics** (3 hours)

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<sup>2</sup> Not to be given in 1910-1911.

**Senior Courses:**

The subjects of study in the Senior Courses are as follows:

**A.—Literary and Philosophical subjects:**

- 1.—English
- 2.—Latin
- 3.—Greek
- 4.—French
- 5.—Italian
- 6.—German
- 7.—Philosophy
- 8.—History

**B.—Scientific Subjects.**

- 1.—Physics
- 2.—Chemistry
- 3.—Geology and Mineralogy
- 4.—Astronomy
- 5.—Mathematics
- 6.—Biology\*

The Senior Courses are offered in the Third and Fourth Years only. Two Courses at least are offered in each subject, except in the case of Astronomy, one in the Third and one in the Fourth year. Of the eight courses required of candidates for the B.A. Degree one at least must be, and not more than three may be taken from Group B. Candidates must continue two subjects throughout two years, and may by permission of the faculty continue three subjects through two years.

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\* Not to be given in 1910-1911.

## II.—Leading to the B.Sc. Degree in Arts.

The Courses leading to the B.Sc. Degree in Arts are also divided into two groups: Junior and Senior Courses. The Junior Courses are designed for students in the First and Second Years, the Senior Courses for students in the Third and Fourth Years. The Junior Courses in general are to be regarded as preparatory to the Senior Courses.

To obtain the B.Sc. Degree a student must pass at least ten Junior Courses and eight Senior Courses. In selecting subjects from the Junior Courses, the student must confine himself to certain well-defined groups with few options; in selecting from the Senior Courses the student is left largely to his own discretion, the Elective System being introduced.

Except by special permission of the Faculty, students will not be permitted to enter upon their Senior Courses until they have passed all the requirements of the Junior Courses.

### Junior Courses:—

The subjects of study in the Junior Courses are as follows:—

#### A.—FIRST YEAR.

- 1.—English and History (5 hours)
- 2.—French (3 hours)
- 3.—German (3 hours)
- 4.—Mathematics (3 hours)
- 5.—Physics (2 hours)

#### B.—SECOND YEAR.

- 1.—English (3 hours)
- 2.—French (3 hours)
- 3.—German (3 hours)
- 4.—Chemistry (3 hours)

5.—**Mathematics** (3 hours)  
6.—**Biology\***

**Senior Courses.**

**A.— Literary and Philosophical Subjects.**

- 1.—**English**
- 2.—**French**
- 3.—**German**
- 4.—**Italian**
- 5.—**Philosophy**
- 6.—**History**
- 7.—**Economics**

**B.—Scientific Subjects.**

- 1.—**Physics**
- 2.—**Chemistry**
- 3.—**Geology**
- 4.—**Astronomy**
- 5.—**Mathematics**
- 6.—**Biology\***

The Senior Courses are offered in the Third and Fourth Years only. Two courses are offered in each subject, one in the Third and one in the Fourth Year. Of the eight courses required of candidates for the B.Sc. Degree in Arts at least one must, and not more than three may, be selected from Group A. Candidates must continue two of the subjects chosen from Group B through two years, and may by permission of the faculty continue three courses from Group B through two years.

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\* Not to be given in 1910-1911.

### III.—HIGHER DEGREES.

#### (1) *Degree of M.A.*

The M.A. Degree is offered in this University under the following conditions:

- (a) Candidates must be Bachelors of Arts of at least one year's standing at the time the degree is conferred.
- (b) Two general fields of study must be chosen, to be known as the Major and the Minor Subject. In the Major Subject the equivalent of two full Senior Courses shall be taken with high credit. A satisfactory thesis shall also be prepared in the Major Subject, to be presented in type-written form for examination, the thesis upon acceptance becoming the property of the University Library. In the Minor Subject the equivalent of two full Senior Courses shall be taken with credit. The student's choice of courses and selection of thesis-topic must in all cases meet with the approval of the faculty.
- (c) Candidates must also pass an oral examination in their chosen fields of study.

#### (2) *Degree of M.Sc.*

The M.Sc. degree is granted in the University on the same conditions as the M.A. degree, provided however that the subjects chosen for the course of study must be taken from Group B of the subjects for the Third and Fourth Years.

### IV.—SUPPLEMENTAL EXAMINATIONS

Supplemental Examinations are conducted by the University in September only on the work of either or both the terms of the preceding academic year. Students failing to pass these examinations are required to repeat the work of this term or terms. A special fee is imposed for these examinations; see page 20. Students must fill application for such examinations not later than September 1st.

## DETAILS OF COURSES IN ARTS BY DEPARTMENTS

### ENGLISH

Immediately after registration, all matriculants, whether they submit accredited certificates or not, are required to write a theme, the subject to be chosen from a list provided by the Professor. Should this theme fall below a standard of average excellence, the student will be required to take a special course in composition, lasting as long as the Professor shall deem necessary. No credit toward the degree will be given for this work, but students assigned to the course must comply with its conditions and show satisfactory improvement in composition before they can advance to their degree.

The Junior Courses are required of all students and must be taken in the first and second years. English I and English II are planned as a sequence, the aim being to give the student, through first-hand acquaintance with the materials, a knowledge of the general history of English literature from the Anglo-Saxon period to the present time.

The Senior Courses are elective. They are intended to provide the student with the opportunity for a more thorough investigation of two significant aspects of modern literature.

#### Junior Courses:—

English I:—(A) English composition. Lectures on rhetoric. Study of models of exposition, argument, description and narration. Regular weekly themes, supplemented by class-practice in sentence structure, paragraph structure and oral themes.

(Required of all First Year students both in Arts and Applied Science, 2 hours).

English I:—(B) The history of English Literature prior to 1700. Lectures and class-study, based on the selections in

Manly's *English Prose* and Manly's *English Poetry*, supplemented by selected dramas of the Elizabethan period.

(Required of First Year students in Arts, 2 hours).

**English II** :—The history of English Literature from 1700 to the present. Lectures and class-study, based on the selections in Manly's *English Prose* and Manly's *English Poetry*. Collateral reading.

(Required of Second Year students in Arts, 3 hours).

**Junior Courses** :—

**English III** :—Browning and Tennyson: A detailed study of the Nineteenth Century. Lectures, discussion and reports. (3 hours).

**English IV** :—English Fiction:—Lectures on the development of English fiction, with analysis and discussion of representative novels of the Eighteenth and Nineteenth centuries, and reports. (3 hours).

**CLASSICS**

The aim of the work in this Department is to encourage the student to more ready and extensive reading of the classical literatures. To this end attention will be devoted to the systematic upbuilding of a serviceable vocabulary and to the practical acquisition of syntax and idiom.

The power to reproduce Latin and Greek originals in good English will be tested by frequent exercises in translation, and stress will be laid in the term finals upon the rendering of passages previously 'unseen.'

Not all the work set down in Authors will be covered in class; much will be left for private reading. The attention of students is drawn to the fact that in the Latin Junior Courses the Authors and the Prose Composition constitute distinct branches of the work which must be separately passed.

Students are expected to familiarize themselves with the Roman method of pronouncing Latin before entering the University.

## LATIN

**Latin "A":**—A preliminary course will be offered for students entering with a condition in Latin. This cannot be credited as university work, and is designed simply to enable students who have not had the opportunity elsewhere, to prepare matriculation Latin.

### **Junior Courses:—**

**Latin I:—**(A) Authors: Cicero, *Pro Lege Manilia* (Wilkins: Macm.) and *Pro Archia* (Nall: Macm.); Ovid, *Selections* (Shuckburg: Macm.), *Virgil, Aeneid VI* (Page: Macm.). Roman history and antiquities.

(B) Prose: (a) review of Latin forms, (b) a close study of Indirect Narration, Gerund and Gerundive, Clauses of Purpose and Result, Noun Clauses, Time Clauses, Conditional Sentences, Ablative Absolute. Students will provide themselves with a Latin Grammar (Gildersleeve-Lodge or Allen and Greenough) and a Latin Dictionary (Lewis: Am. Book Co.)

(Required of all students in the B.A. course: 3 hours).

**Latin II:—**(A) Authors: Horace, *Select Odes* (Page: Macm.) and *Epistles* (Wilkins: Macm.); Livy XXI-XXII (Capes: Macm.). Roman history and antiquities.

(B) Prose: Exercises in continuous Latin Prose Composition (Nutting: Allyn and Bacon).

(Required of all students in the B.A. course: 3 hours).

### **Senior Courses:—**

**Latin III:—**Authors: Lucretius, *De Rerum Natura*, I,

III, V; Tacitus, Histories I and II, with parallel readings from Suetonius. Monthly Latin versions. Grammatical, philological and literary studies. (3 hours).

Latin IV:—Authors: Roman Literary Criticism (the Pro Archia and Orator of Cicero, the Dialogus of Tacitus, Quintilian's Institutio Oratoria X, and selections from Aulus Gellius); Roman Comedy (Plautus and Terence, each two plays). A Latin essay in each term. Elements of palaeography and text-criticism. (3 hours).

### GREEK

*Note*:—The study of Greek may be begun in the University. It will be possible for sincere students by taking two hours weekly throughout the first year in addition to the regular three hour course to obtain at its conclusion full credit for freshman Greek.

#### Junior Courses:—

Greek I:—Authors: Lysias, Against Theomnestus and On Behalf of the Cripple (Shuckburgh. Macm.), and Homer, Odyssey XII. (Merry: Clar. Press). Necessary history and antiquities.

Grammar and Prose: Hadley and Allen's Greek Grammar (Am. Book Co.) and Forman's First Greek Book (Am. Book Co.).

(Required of all candidates looking towards Classical Honors in Senior Courses. Optional for theological students with the prescribed modern language of the First Year.

For beginners, 5 hours: for matriculated students, 3 hours,

Greek II:—Authors: Plato, Apology of Socrates (Williamson: Macm.); Euripides, Alcestis (Earle: Macm.). History and antiquities.

(Required of all candidates looking towards Classical Honors in Senior Courses. Optional for theological students with the prescribed modern language of the Second Year, provided they have already elected Greek for their First Year. 3 hours).

Greek III:—Authors: Herodotus I, II; Aeschylus, Prometheus Bound, and Sophocles, Oedipus Rex. Occasional Greek prose versions. Studies in grammar, philology and literature. (3 hours).

Greek IV:—Authors: Thucydides, VI and VII; Aristophanes, The Clouds and The Frogs. Occasional Greek prose versions. Studies in philology and literature. (3 hours).

#### MODERN LANGUAGES

In the Junior Courses the central aim will be the practical acquisition of the living language studied. To this end, especially in the First Year, particular emphasis will be laid on exercises in pronunciation, conversation and composition. A considerable amount of reading will be done. In the First Year this will consist of representative modern authors and in the Second Year attention will be directed to the writers of the classical period. Regular reports will be required on collateral reading.

The attention of students is directed to the fact that in Junior Courses Authors and Prose Composition must be passed separately.

In the Senior Courses stress will continue to be laid on the practical side of language study. With regard to the reading, special topics connected with the literary movement of the eighteenth and nineteenth centuries, will be studied. As before regular reports will be required on the collateral reading.

## FRENCH

French A.—An introductory course for students entering the University with a condition in French. This course cannot be credited towards a degree and is planned simply to enable students to make up deficiencies in Matriculation.

### Junior Courses:—

French I: (A) Authors:—Lesage: *Gil Blas* (Heath); Dumas: *Napoléon* (Macmillan); Balzac: *Le Curé de Tours*, etc. (Holt); Hugo: *Les Misérables* (Ginn); Erckmann-Chatrian: *Le Juif Polonais* (Heath); Bazin: *Les Oberlé* (Holt).  
Collateral Reading.

(B) Composition: Fraser and Squair: *French Grammar* (Copp Clark Co.); Cameron: *French Composition* (Holt).

3 hours per week.

French II: (A) Authors:—The first part of the course will be devoted to the non-dramatic literature of the seventeenth century and will include extracts—as contained in Warren's *French Prose of the XVII Century* (Heath)—from the work of Descartes, Pascal, Laroche Foucauld, Bossuet and Labruyère; Madame de Lafayette: *La Princesse de Clèves* (Ginn); Lafontaine: *Fifty Fables* (American Book Co.)

In the second part of the course a study will be made of the three great dramatists of the classical period. Molière: *Les Précieuses Ridicules*; *Le Misanthrope*; *Tartuffe*; *Les Femmes Savantes* (Heath); Corneille: *Le Cid*; *Polyeucte* (Heath); Racine: *Andromaque*, *Athalie* (Holt.).

Collateral reading, conferences, essays and reports.

(B).—Composition: Bévier: *French Grammar* (Holt); Vreeland and Koren: *French Syntax and Composition* (Holt).  
3 hours per week.

### Senior Courses:—

French III:—The first term will be devoted to French

Literature in the XVIII century. Lesage: *Turcaret* (Heath); Marivaux: *Comédies* (Macmillan); Beaumarchais: *Le Barbier de Séville*; Voltaire: *Contes Choisis, Zaire* (Heath); Rousseau: Brunel's *Extraits* (Hachette).

The collateral reading, with essays and reports in French, will be mostly concerned with Voltaire and Rousseau.

The work of the second term will consist of a topical study of French Lyric Poetry, beginning with Charles d'Orléans and continuing down to the present day. The development of the genre will be carefully traced, but the bulk of the course will be devoted to the nineteenth century. The text used will be Canfield's *French Lyrics* (Holt), but considerable outside reading will be required with conferences, essays and reports in French. 3 hours per week.

French IV: Nineteenth Century literature.

First term: The Period of Romanticism. Chateaubriand: *Atala*; Hugo: *Hernani, Ruy Blas* (Heath); Balzac: *Eugénie Grandet* (Holt); Alfred de Musset: *Trois Comédies* (Heath); Ponsard: Charlotte Corday (Cambridge Univ. Press-Putnam's).

Second Term: Augier: *Le Gendre de M. Poirier* (Heath); *Contes des Romanciers Naturalistes* (Heath); France: *Crime de Sylvestre Bonnard* (Holt), Renan: *Souvenirs d'Enfance et de Jeunesse* (Heath); Rostand: *Cyrano de Bergerac* (Holt); H. de Bornier: *La Fille de Roland* (Heath).

A considerable amount of collateral reading with conferences, essays and reports in French will also be required.

3 hours per week. (Not to be offered in 1910-11.)

#### ITALIAN

Italian I.—Grandgent's Italian Grammar (Heath); Grandgent's Italian Composition (Heath); Bowan's *Italian Reader* (Heath).

Reading of modern novels and plays.  
3 hours a week.

### GERMAN

German A.—An introductory course for students entering the University with a condition in German.

This course cannot be credited towards a degree and is planned simply to enable students to make up deficiencies in Matriculation.

#### Junior Courses:—

German I.—The High School German Grammar (Copp, Clark Co.); Horning, German Composition (Copp, Clark Co.); Goethe, *The Vicar of Seesenheim* (Holt); Freytag, *Die Journalisten* (Ginn); Schiller, *Maria Stuart* (Holt); Poems, (Regents' German and French Poems, Holt.).

Supplementary Reading: Hoffman, *Historische Erzählungen* (Heath).

3 hours a week.

German II.—Horning, German Composition (Copp, Clark Co.); Keller, *Bilder der Deutschen Literatur* (Am. Book Co., new ed.); Lessing, *Minna von Barnhelm* (Heath); Goethe, *Egmont* (Ginn); Stifter, *Das Heidedorf* (Am. Book Co.).

Supplementary Reading; Schiller, *Die Piccolomini* (Wal- lenstein, Holt).

3 hours a week.

German III.—Lessing: *Emilia Galotti* (Heath); Goethe, *Torquato Tasso* (Ginn); Schiller, *Wallensteins Tod* (Wal- lenstein, Holt), Heine, *Die Harzreise* (Heath), Klenze, Deut- sche Gedichte, pp. 1-130 (Holt).

History of German Literature to the death of Schiller (1805).

**Composition.**

Supplementary Reading: Freytag, *Karl der Grosse* (Holt); Grillparzer, *Der Traum, Ein Leben* (Heath); Goethe, *Faust*, Part I, (Heath).

German IV.—Eichendorf, *Aus dem Leben eines Taugenichts* (Holt); Grillparzer, *Der arme Spielmann* (Heath); Sappho (Ginn); Sudermann, *Teja* (Heath); Hauptman, *Die Versunkene Glocke* (Holt); Klenze, *Deutsche Gedichte*, p. 131 to end. (Holt).

History of German Literature in the Nineteenth Century.  
Composition.

Supplementary Reading: Suderman, *Der Katzensteg* (Heath); Lessing, *Nathan der Weise* (Holt); Goethe, *Faust*, Part I., Heath.

**HISTORY.**

**Junior Courses:—**

History I.—The main outlines of British and Canadian History. This course is taken as a part of the English course of the First Year.

History II. The main outlines of European History.

The Junior Courses are general in their character, being planned so as to give to the student a suitable back-ground for subsequent reading. At the same time they serve as an introduction to the more intensive Senior Courses which are elective.

**Senior Courses:—**

History III. (A) *The Principate* Augustus to Diocletian. A study of the main governmental and social developments of the period 27 B.C.—305 A.D. The work will be covered by lectures, by conferences, and by essays. Students should provide themselves with Bury's *Student's Roman Empire* (Am. Book Co.), and the abridged Gibbon, Vol I (John Murray).

(b) *The Renaissance.* A study, beginning with the rise of Italian Humanism, of the Renaissance in Europe. The various factors composing the movement, social, artistic, religious and political, will be examined. Lectures, reports on collateral reading, and a thesis.

Text books: *Symond's Renaissance in Italy* (Pearson's abridged ed., H. Holt & Co.); Lodge: *Close of the Middle Ages* (Rivington's, London); Johnson: *Europe in the XVI Century* (Rivington's, London).

Open to all students who have completed History II. 3 hours per week.

History IV. Modern History.—From 1600 to 1900.

History V. English Constitutional History.

## PHILOSOPHY.

### Junior Courses:—

#### Philosophy II:—

(1) Psychology. — Experimental and general. Text-book. — James, *Psychology, Briefer Course*. Laboratory, demonstrations and supplementary lectures.

(2) Logic.—Lectures on the nature and development of thought.

### Senior Courses:—

#### Philosophy III:—

(1) History of Philosophy.

(a) Ancient and Mediaeval Philosophy. Selected readings from Plato and Aristotle. 1st term.—2 hours.

(b) Modern Philosophy till Kant. Text-book.—Rand, *Modern Classical Philosophers*. 2nd term.—2 hours.

(2) Ethics.—Text-book.—Paulsen, System of Ethics. Essays and discussions. Both terms.—1 hour.

Philosophy IV:—

(1) History of Philosophy.

(a) The Philosophy of Kant. 1st term.—2 hours.

(b) From Kant to the present. 2nd term.—2 hours.

Text-book.—Rand, Modern Classical Philosophers.

(2). Studies in Esthetics and the Philosophy of Religion.—Selected readings, essays and discussions. Both terms.—1 hour.

MATHEMATICS.

Mathematics I:—(1) Geometry: The equivalent of Books IV and VI of Euclid with supplementary matter. Text-book, Hall and Stevens' Euclid.

(2) Algebra.—Simple Equations of one, two and three unknown quantities, Progressions, Ratio, Proportion, Variation, Permutations and Combinations, Binomial Theorem, Logarithms, Theory of Quadratic Equations. Text-book, Hall and Knight's Elementary Algebra; Tory and Birchard's Elements of Algebra.

(3) Trigonometry, Plane Trigonometry including the solution of Triangles. Text-book, Murray's Plane Trigonometry.

Mathematics II. (1) Geometry.—Exercises in Plane Geometry, including Loci, Transversals, Pole and Polars; Elements of Solid Geometry; Elements of Geometrical Conic Sections.

(2) Algebra.—Exponential and Logarithmic Series; Properties and Solutions of Higher Equations; Complex Numbers; Graphic Algebra.

Mathematics III. (1) Analytical Geometry.—The Point, the

Straight Line, the Circle, the Ellipse, the Hyperbola. Text-book, Tanner and Allen's Analytic Geometry.

(2) Calculus.—The elements of the Differential and Integral Calculus. Text-book, Chandler's Calculus.

## PHYSICS.

Physics I.—Elementary Course in General Physics. This Course is intended to be an introduction to the courses in Chemistry and other branches of Natural Science, and to the more detailed courses in Physics of the Third and Fourth Years. The more important principles in each branch of the subject are treated and illustrated.

Physics III.—The elements of Kinematics, Kinetics, Statics and Hydrostatics; Laws of Energy, Sound, Light, and Heat.

Two lectures per week fully illustrated with one laboratory period of four hours per week. Text-books, Watson; Tory and Pitcher.

Sound.—Velocity of sound; determination of rates of vibration of tuning forks; resonance; laws of vibration of strings.

Light.—Photometry; laws of reflection and refraction; indices of refraction; focal lengths and magnifying powers of mirrors, lenses, telescopes and microscopes; the sextant spectroscope, spectrometer, diffraction grating, optical bench and polariscopes.

Heat.—Construction and calibration of thermometers; melting and boiling points; air thermometer; expansion of solids, liquids, and gases; calorimetry; specific and latent heats; laws of vapour pressure; radiation; the mechanical equivalent of heat.

Physics IV.—Electricity and Magnetism. Two lectures per week fully illustrated with one laboratory period of four hours per week. Text-books: Watson; Tory and Pitcher.

Measurement of pole strength and moment of a magnet; the magnetic field; methods of deflection and oscillation;

comparison of moments and determination of elements of earth's magnetism; fractional electricity; current electricity; complete course of measurements of current strength, resistance and electromotive force; calibration of galvanometers; the electrometer; comparison of condensers; electromagnetic induction; discharge of electricity through gases; radio-activity; electrical waves.

### CHEMISTRY.

Chemistry I.—(a) A course of simple lectures on the principal elements and their inorganic compounds with a brief outline of the theories of Chemistry, an introduction to the history of Chemistry, and occasional references to industrial and other branches of Chemistry. Text-books: (1) General Chemistry for Colleges (Alexander Smith: Century Co., N. Y.); (2) Cooper's translation of Holleman's Inorganic Chemistry; (John Wiley & Sons).

(b) A laboratory course during the first term in setting up apparatus, chemical manipulations, and the preparation of some inorganic substances for the purpose of illustrating some of the laws of Chemistry.

(c) A laboratory course during the second term in the qualitative analysis of the common acids and bases. Text-book: Qualitative Analysis (Noyes: H. Holt & Co.). For reference: Qualitative Chemical Analysis (Prescott and Johnson, 6th edition: D. van Nostrand).

Chemistry II.—Organic Chemistry. (a) A course of lectures on the Aliphatic and Aromatic series. Text-book: Walker's Translation of Holleman's Organic Chemistry (John Wiley & Sons.) For reference: Berthel'sen's Organic Chemistry.

(b) Laboratory course in the preparation and analysis of organic compounds.

Chemistry III.—Analytical Chemistry. (a) A course of lectures on the principles of analytical chemistry and the methods employed in it. (b) A laboratory course in simple

gravimetric and volumetric analyses of common substances.

(c) A laboratory course in assaying and blowpipe analysis with special reference to the requirements of prospectors.

More advanced courses in various branches of Chemistry will be arranged for where required.

#### GEOLOGY AND MINERALOGY.

An elementary course in the description, classification and identification of ores and economic minerals; followed by a course in historical geology, special attention being given to the Canadian formations. A laboratory course will be given concurrently with the lecture course.

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### Courses in Applied Science

The Courses for the First and Second Years of Applied Science outlined below are such as to give that general foundation in Mathematics and Physical Sciences which is necessary in order to make specialization in the various branches of Engineering in the Third and Fourth Years possible. Arrangements have been made with the Eastern Canadian Universities so that students who may so desire, should laboratories and equipment not be ready for the Third and Fourth Years in the University for the special branch of Engineering which they may wish to follow, may enter one of the older Universities with similar standing.

Courses in Third and Fourth Year work leading to a degree of B.Sc. in Civil and Municipal Engineering as outlined below, will be offered in the session of 1911-12.

The Third Year work is designed to give the student the advanced theoretical knowledge which will enable him to take up the question of design and the broader study of his subject in the Fourth Year.

In the Fourth Year the student will be allowed to specialize somewhat in different branches of Civil Engineering, those wishing to follow Municipal Engineering, Railway En-

gineering, or Hydraulic Engineering being allowed to do special designing, and to take a limited number of optional lectures in their chosen division. Courses in the related branches of Electrical and Mechanical Engineering will be given in the Fourth Year to enable the student to understand the rudiments of the subject sufficiently to discuss questions, which may arise, with the specialists in these departments or to take up, after graduation, more intensive study.

The First and Second Year work will close on the 30th of April. The Third and Fourth Year work will close concurrently with that in the Arts Courses.

The Department makes an effort to put the students in the way of obtaining practical work during the summer vacation. With this in view an elementary course in surveying is given toward the end of the First Year.

Special attention is called to the Course outlined below whereby students wishing to enter the Courses in Applied Science with a Seventh Grade Certificate of the Province of Alberta or equivalent standing may do so and obtain their degree in five years. The work of the first two years in the regular Applied Science Course is taken in three years, the additional mathematics and modern language requirements for full matriculation being made up meanwhile. Students will thus obtain their degree in the same time as required to take the additional Eight Grade work required for Matriculation and the regular Course in Applied Science. This course, however, will make the work of the first two years easier and give the student meanwhile a thorough grounding in his elementary subjects. An extra period of practical summer work is also an attractive feature. Fees for the course will be as follows: First Year—\$10 a term; Second Year—\$15 a term; Third and successive years the same as for the regular Applied Science Course.

The subjects of instruction in the first two years of the regular course and of the first three years in the special Five Year Course are given below. These are the same for all students wishing to follow any branch of Applied Science.

## REGULAR COURSE.

## I YEAR

SUBJECT	Lectures per week		Laboratory, etc. Periods per week		For Details see page
	1st Term	2d Term	1st Term	2d Term	
Algebra.....	4	4			46
Desc. Geometry.....	1	1	2	2	48
Dynamics.....	2				46
Eng. Composition.....	2	2			47
Drawing.....			2	2	48
Geometry.....	3				46
Physics.....	2	2	1	1	47
Shopwork.....			1	1	48
Trigonometry.....		3			47
Elem. Surveying.....				1-2	47

A Laboratory period is three hours.

## II YEAR.

SUBJECT	Lectures per week		Laboratory, etc. Periods per week		For Details see page
	1st Term	2d Term	1st Term	2d Term	
Anal. Geometry.....	3				47
Calculus.....	3	3			47
Chemistry.....	2	2	1	1	47
Graphical Statics.....		1			48
Surveying & Mapping.....			2		48
Mech. Drawing.....				2	48
Mechanics.....		3	1	1	47
Mech. of Machines.....	2	2			47
Physics.....	2	2	1		47
Shopwork.....	2	2	1	1	48
Surveying.....	2	2		1	47

A Laboratory period is three hours.

SPECIAL FIVE YEAR COURSE.

I YEAR.

SUBJECT	Lectures per week		Laboratory, etc. Periods per week		For Details see page
	1st Term	2d Term	1st Term	2d Term	
Algebra.....	3				46
Drawing.....			2	2	48
Eng. Composition.....	2	2			47
French or German.....	3	3			33 <sup>2</sup> 35
Geometry.....	3				46
Physics.....	2	2			39
Shopwork.....			1	1	48
Trigonometry.....		3			38
Elem. Surveying.....				$\frac{1}{2}$	47

II YEAR.

SUBJECT	Lectures per week		Laboratory, etc. Periods per week		For Details see page
	1st Term	2d Term	1st Term	2d Term	
Algebra.....	4	4			46
Desc. Geometry.....	1	1			48
Dynamics.....	2				46
Drawing.....			2	2	48
Geometry.....	3				46
Mech. Drawing.....	2	2	1	1	48
Physics.....			1	1	47
Shopwork.....		3			48
Trigonometry.....					47

III YEAR.

SUBJECT	Lectures per week		Laboratory, etc., Periods per week		For Details see page
	1st Term	2d Term	1st Term	2d Term	
Anal. Geometry.....	3				47
Calculus.....	3	3			47
Chemistry.....	2	2	1	1	47
Graphical Statics.....		1		$\frac{2}{3}$	48
Surveying & Mapping.....			2	2	48
Mechanics.....		3			47
Mech. of Machines.....	2	2			47
Physics.....	2	2	1	1	47
Surveying.....	2	2			47

A Laboratory period is three hours.

*Note*—Fourth and Fifth Years in this course are identical with the Third and Fourth Years in the regular courses in Applied Science.

The Third and Fourth Years in the Course leading to a degree of B.Sc. in Civil and Municipal Engineering are outlined below.

III YEAR.

SUBJECT	Lectures per week		Laboratory, etc., Periods per week.	
	1st Term	2d Term	1st Term	2d Term
Desc. Geometry.....		1		1
Geology.....	2	2	1	1
Hydraulics.....	3	2		1
Graphical Statics.....	1		2	
Mechanics.....	2			
Municipal Accounting.....		2		
Practical Astronomy.....	2	2		
Strength of Materials.....	2	2		1
Surveying & Mapping.....			2	1
Theory of Structures.....	2	3		

IV YEAR.

SUBJECT	Lectures per week		Laboratory, etc. Periods per week.	
	1st Term	2d Term	1st Term	2d Term
*Bacteriology.....	2		1	
Design.....	3	3	2	3
Electrical Engineering	2		1	
*Foundat. & Masonry.		1		
Geodesy .....	2		1	1
Mech. Engineering.....		2		1
*Municipal Engineering	2	2		
Public Health.....		2		1
Railway Engineering..	2	2		
*Structur. Engineering	1		1	
Testing Laboratory.....			1	1

\* Optional.

DETAILS OF COURSES.

*Algebra.* — 1. As under Algebra, Course I, page 38 with additional grinds and problems. First Year Special Five Year Course (First Term.)

2. Miscellaneous theorems and exercises, logarithms and use of mathematical tables, exponential and other series, properties and solutions of higher equations, complex numbers, graphic algebra with an introduction to Analytic Geometry. First Year (First and Second Term).

*Dynamics.* — An elementary course in dynamics, statics and hydrostatics. First Year (Second Term).

*Geometry.* — 1. As under Geometry, Course I, page 38 with additional grinds and deductions. First Year Special Five years Course (First Term).

2. Exercises in Plane Geometry, including loci, transversals, pole and polar, etc., elements of Solid Geometry, elements of Geometrical Conic Sections. First Year (First Term).

*Trigonometry.* — Plane and Spherical. First Year (Second Term).

*Analytical Geometry.* — The point, straight line, circle, parabola, ellipse and hyperbola. Second Year (First and Second Term).

*Calculus.* — Differentiation of functions of one or more variables, successive differentiation, tangents, etc., multiple points, asymptotes, curvature, maxima and minima, integration with applications to areas, volumes, moments of inertia, etc. Second Year (First and Second Term).

*Mechanics.* — Kinematics, Kinetics of a Particle, Statics. Second Year (Second Term).

*Experimental Physics.* — (See Senior Courses under Department of Physics, page 39).

Course II.—First Year (First and Second Term).

Course III. Second Year (First and Second Term).

*English Composition.* — (See English Composition under Department of English, page 28).

*Chemistry.*—(See Course I under Department of Chemistry, page 40).

*Mechanics of Machines.* — Discussion of the principles involved in the simpler machines, constrained motion, velocity and acceleration in mechanisms, analysis and classification of the simpler machines. Second Year (First and Second Terms).

*Surveying.* — Elementary Course in field work including chaining, rodding, chain surveys, micrometer and compass surveys and practice with the level and transit. First Year (Second Term).

Advanced Course in field work as follows: level and transit practice including the adjustments of the instruments; a survey and location of a railway line with determinations of topography and contours and subsequent staking out for construction; elementary course in Practical Astronomy. Second Year (First and Second Terms).

A lecture course in surveying dealing with chain and angular surveying, construction, adjustment, use and limitations of the transit, level, micrometer, compass and minor field instruments, topography, contour-surveying, description for deeds, general land systems of the Dominion and the Province and elementary practical astronomy. Second Year (First and Second Terms).

*Descriptive Geometry.* — Problems on straight line and plane; projections of plane and solid figures; curved surfaces and tangent planes; intersections of surfaces; axometric projections; shades and shadows. First Year (First and Second terms).

*Drawing.* — Geometrical Drawing, Freehand Drawing and Lettering and Elementary Mechanical Drawing. First Year (First and Second Terms).

*Mechanical Drawing.* — Elementary Principles of Mechanical Drawing and Draftsmanship; preparation of working drawings of simple machine details; making dimensioned sketches of machines and their parts; preparation of tracings and blue prints. Second Year (First and Second Terms).

*Graphical Statics.* — Composition of forces; general methods involving the use of the funicular and force polygons; determination of reactions, centres of gravity, bending moments and moments of resistance, stresses in cranes, braced towers, roof trusses and bridge trusses. Second Year (Second Term).

*Surveying and Mapping.* — Field work in surveying; preparation of maps, plans, estimates, sections, etc., from notes taken in the field. Second Year (First and Second Terms).

*Shopwork.* — Practical instruction will be given in carpentry and joiner work, pattern making, smith work, foundry work and machine shop work. First and Second Years.

*Note.* — Details of courses outlined for Third and Fourth Year students taking work leading to the B.Sc. degree in Civil and Municipal Engineering will be given in the Calendar for 1911-12.

### THE UNIVERSITY LIBRARY.

The Library contains six thousand volumes, including general works of reference, and books covering the reading required of students in the Arts and Science Courses. Provision has been made for the steady growth of the Library from year to year.

A special feature is a collection of Canadian books which is being presented to the Library through the generosity of Dr. A. C. Rutherford.

The Library is also supplied with a number of daily newspapers, as well as many of the leading magazines and reviews.

The following are the regulations regarding the use of the Library:—

1. All members of the Staff, and registered students in attendance upon Lectures at the University are entitled to the use of the books.
2. No one may remove a book from the Library until a receipt has been given to the Librarian upon a printed form provided for that purpose. When the book is returned, the borrower must see that his receipt is cancelled before the book is replaced on the shelf.
3. The borrower is held responsible for the loss of a book or any damage it receives while it is charged to him.
4. All books must be returned within two weeks of the date on which borrowed. Any one who wishes to use a book longer may have it renewed, on request, but such books may be called in at any time.
5. Reference books,—i.e. those which are required by a number of students at the same time—are kept on a Reference Shelf, where they may be consulted at any time, but may not be taken out during Library hours.
6. No one may write upon or otherwise deface any books or magazines belonging to the Library.

7. Silence must be strictly observed in the Library.
8. Any one who repeatedly ignores any of these Regulations may be deprived of the use of the Library.

#### UNIVERSITY BOOK STORE.

Textbooks prescribed in the University Calandar for the use of students in their courses, may be purchased through the University Book-Store which is conducted as a part of the Library.

Gowns may be obtained in the same way.

#### AFFILIATED PREPARATORY COLLEGES.

Under the regulations of the Senate Preparatory Schools and Colleges which send students to the University Matriculation Examinations are affiliated with the University.

Under this arrangement the following are affiliated institutions:

*Western Canada College, Calgary.*

*Alberta College, Edmonton.*





## Sessional Examinations.

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### FACULTY OF ARTS AND SCIENCES.

The following are the results of the final examinations in the University. The students are grouped by classes, the first class comprising those who have obtained eighty-five per cent and over, the second class those who have obtained between fifty and sixty-five per cent. No student is passed in any subject who fails to secure fifty per cent.

#### FIRST TERM.

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##### Latin A.

Class I.—Miss J. F. Montgomery, Miss M. A. Bishop.

Class II.—J. Blackmore.

Class III.—N. Grant, R. C. Hargrave, R. Porte, Miss A. Johnson, Miss I. Keane and H. Nolan, equal.

##### Latin I.: Authors.

Class I.—Miss B. McLaughlin, G. H. Holmes.

Class II.—W. H. Scott, Miss L. Fowler, C. Beck, Miss M. Millar.

Class III.—J. G. White, Miss E. Rodler, Miss A. K. Wilson, Miss B. Brickman and J. G. Niddrie equal, Miss E. Anderson, G. D. Misener and G. Kettyls equal.

##### Latin I.: Prose.

Class I.—G. H. Holmes, Miss B. McLaughlin.

Class II.—W. H. Scott, Miss M. Millar, Miss L. Fowler.

Class III.—J. G. White, C. Beck, J. G. Niddrie, P. Young, Miss B. Brickman and Miss E. Rodler and Miss A. K. Wilson equal.

### **Latin II.: Authors.**

Class I.—A. E. Ottewell, E. T. Mitchell.  
Class II.—R. H. Dobson, Miss M. E. Lloyd, F. S. McCall.  
Class III.—Y. Blayney, L. Y. Cairns, J. R. Drysdale, R. J. Copley.

### **Latin II.: Prose.**

Class II.—Miss M. E. Lloyd, A. E. Ottewell.  
Class III.—Y. Blayney, R. J. Copley, L. Y. Cairns and R. H. Dobson and F. S. McCall and E. T. Mitchell equal.

### **Greek I.**

Class I.—W. Davidson, E. T. Mitchell.  
Class II.—J. G. Niddrie, G. D. Misener.  
Class III.—G. Kettyls.

### **Greek II.: Authors.**

Class I.—A. E. Ottewell.  
Class III.—J. M. Waggett, A. L. Carr.

### **Greek II.: Prose.**

Class II.—A. E. Ottewell.  
Class III.—A. L. Carr, J. M. Waggett.

### **French A.**

Class I.—E. Fowler.  
Class II.—Miss M. Bishop, H. G. Nolan.  
Class III.—W. L. Taylor, N. Grant, C. W. Ritson, L. E. Harris, F. Appleton and W. S. Hyssop and L. S. McKeen equal; A. M. Elliott.

### **French I.**

Class I.—G. H. Holmes.  
Class II.—W. H. Scott, C. Beck.  
Class III.—Miss M. Millar, C. Rutherford, Miss I. Keane, P. Young.

### French II.

Class II.—L. Y. Cairns, Miss M. E. Lloyd.

Class III.—Y. Blayney, R. H. Dobson, Miss E. Rodler, J. G. White, Miss W. Hyssop and Miss A. K. Wilson equal; Miss E. Anderson, R. J. Copley.

### German A.

Class II.—J. Blackmore.

Class III.—C. Hargrave, C. Rutherford, A. Carmichael, R. C. Porte.

### German I.

Class I.—Miss B. McLaughlin.

Class II.—Miss K. Lavell.

### Chemistry II

Class I.—E. T. Mitchell.

Class II.—F. S. McCall, W. M. Fife, R. C. Hargrave, Y. Blayney, A. E. Ottewell, W. H. Draper, J. G. White.

Class III.—J. M. Waggett, G. D. Misener, A. J. Law, O. Inkster, R. H. Dobson, A. L. Carr and Miss A. Johnston, equal.

### Psychology II.

Class I.—A. E. Ottewell, Miss M. Bishop, A. J. Law.

Class II.—J. M. Waggett, G. F. Driver, A. L. Carr.

Class III.—J. R. Drysdale, J. G. White, D. Simpson.

### History II.

Class I.—E. T. Mitchell and F. S. McCall equal; A. E. Ottewell, Miss M. Bishop.

Class II.—Miss E. Rodler, A. L. Carr, J. M. Waggett, G. D. Misener, G. A. Kettyls, J. R. Drysdale.

Class III.—Y. Blayney, L. Y. Cairns, R. C. Hargrave, R. J. Copley, Miss A. Wilson, J. G. White, Miss A. Johnston, Miss E. Anderson, Miss E. Lloyd.

### Philosophy III.

Class I.—E. T. Mitchell.

Class II.—F. S. McCall, R. H. Dobson, A. J. Law.

Class III.—G. A. Kettys.

### Physics I.

Class I.—Miss E. Fowler, Miss B. McLaughlin.

Class II.—J. G. Niddrie, P. Young and R. Hargrave equal; J. Blackmore, J. R. Drysdale, G. H. Holmes.

Class III.—B. Brickman, W. H. Scott and N. Grant equal; C. Rutherford, Bertha Allen, C. L. Beck, R. G. Porte, L. Elliott, A. Carmichael and W. Davidson and I. Keane and K. Lavell and M. Millar and W. D. H. Miller and H. G. Nolan, equal.

### Geometry.

Class I.—G. H. Holmes.

Class II.—E. Fowler and B. McLaughlin equal; J. G. Niddrie, N. Grant, B. Brickman.

Class III.—W. H. Scott, J. Blackmore and P. Young, equal; K. Lavell, R. Porte, Mary Millar

### English Composition.

Class I.—Miss B. McLaughlin.

Class II.—J. F. C. Sells, Miss I. Keane, W. Davidson and Miss K. Lavell and H. Nolan, equal; W. H. D. Miller, W. H. Scott and Percy Young and L. E. Harris, equal; J. Blackmore.

Class III.—C. Rutherford, Miss M. Millar and L. Elliott, equal; C. Easom and P. Hotchkiss equal; C. W. Ritson, C. L. Beck and Miss B. Brickman and G. H. Holmes and Jas. Montgomery and W. J. Reid, equal.

### English I.

Class II.—J. Blackmore, Miss B. McLaughlin, Miss L. Keane and W. H. Scott, equal; W. Davidson, Miss E. Fowler, G. H. Holmes, P. Young,

Class III.—Miss B. Brickman, Miss Kathleen Lavell and

Miss B. Allen, equal; Miss M. Millar and C. Easom, equal; David Simpson, N. Grant, J. G. Niddrie, W. H. D. Miller, H. G. Nolan, C. Rutherford and C. L. Beck, equal.

### English II.

Class I.—Miss M. Bishop, F. S. McCall and A. E. Ottewell, equal.

Class II.—L. Y. Cairns, G. D. Misener.

Class III.—A. L. Carr and J. R. Drysdale, equal; G. A. Kettyls and Miss M. E. Lloyd, equal; Miss E. Anderson and Y. Blayney, equal; C. J. Bailey, R. J. Copley and Miss A. Johnston, equal; Miss E. Rodler and Miss A. Wilson, equal.

### English III.

Class I.—A. J. Law.

Class II.—R. H. Dobson.

Class III.—Miss W. Hyssop.

### Calculus II.

Class I.—W. M. Fife.

Class II.—W. H. Draper.

Class III.—O. Inkster.

### Surveying II.

Class I.—W.M. Fife.

Class II.—O. Inkster, J. W. Doze.

Class III.—W. H. Draper.

### Mechanics of Machines II.

Class I.—W. M. Fife, W. H. Draper.

Class II.—O. Inkster.

### Mechanical Drawing II.

Class II.—W. H. Draper, W. M. Fife and O. Inkster and C. Nimmens, equal; W. J. P. Hyssop.

Class II.—J. W. Doze, L. S. McKeen.

### Mapping II.

Class I.—W. M. Fife, J. W. Doze, O. Inkster.

Class II.—W. H. Draper, W. J. P. Hyssop.

Class III.—C. Nimmons.

### Descriptive Geometry I.

Class I.—M. Brown and C. Ritson, equal; J. F. C. Sells.

Class II.—P. Hotchkiss, H. M. Perron, J. McQueen, L. E. Harris.

### Trigonometry.

Class I.—M. Brown, J. F. C. Sells, C. Ritson.

Class II.—L. E. Harris, J. W. Doze, H. M. Perron, P. Hotchkiss, J. W. McQueen.

Class III.—H. Dixon and I. Grierson, equal; J. Montgomery, W. S. Hyssop, L. S. McKeen.

### Physics III.

Class II.—C. W. Ritson and J. F. C. Sells, equal; M. Brown and J. W. Doze, equal.

Class III.—I. Grierson, H. M. Perron, L. E. Harris and W. S. Hyssop, equal; J. W. McQueen, H. Dixon, P. Hotchkiss and L. S. McKeen and R. Martin, equal.

### Geometry (Science)

Class I.—M. Brown, C. W. Ritson.

Class II.—H. M. Perron, J. F. C. Sells, J. W. Doze.

Class III.—W. S. Hyssop, L. E. Harris, I. Grierson, P. Hotchkiss, J. W. McQueen.

### Geometrical Drawing I.

Class I.—M. Brown.

Class II.—H. M. Perron, C. I. Grierson, C. W. Ritson, J. McQueen, P. Hotchkiss.

Class III.—J. F. C. Sells, L. E. Harris, W. S. Hyssop, J. Montgomery, R. Martin, W. L. Taylor, W. J. Reid, W. W. Rogers and H. Dixon, equal.

### Mechanical Drawing I.

Class I.—C. I. Grierson, H. M. Perron, P. Hotchkiss, M. Brown, J. McQueen.

Class II.—C. W. Ritson, R. Martin, W. L. Taylor, J. F. C. Sells, L. E. Harris, W. J. Reid, W. S. Hyssop, W. W. Rogers and H. Dixon, equal.

Class III.—J. Montgomery.

### Algebra I.: (Science)

Class I.—M. Brown.

Class II.—C. W. Ritson, J. W. Doze, P. Hotchkiss.

Class III.—L. E. Harris, W. S. Hyssop, H. M. Perron, J. McQueen, J. F. C. Sells, H. Dixon and L. S. McKeen and W. W. Rogers, equal.

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## SECOND TERM.

### English Composition.

Class II.—P. Young, K. Lavell, B. McLaughlin and W. Davidson, equal; Irene Keane, W. H. Scott.

Class III.—M. J. Millar and H. Nolan, equal; G. H. Holmes, J. Blackmore, W. H. D. Miller, D. Simpson, B. Brickman and C. Easom and L. Elliott, equal.

### English I.

Class I.—B. McLaughlin, G. H. Holmes, Irene Keane, J. Blackmore and W. Davidson (equal).

Class II.—W. H. Scott, C. Easom, E. Fowler and D. Simpson (equal), B. Brickman, P. Young.

Class III.—M. Millar, J. G. Niddrie, N. Grant, K. Lavell and H. G. Nolan (equal).

### English II.

Class I.—A. E. Ottewell, F. S. McCall, M. Bishop, L. Y. Cairns.

Class II.—M. E. Lloyd, E. Anderson.

Class III.—A. L. Carr, G. D. Misener, E. Rodler, J. R. Drysdale, A. Johnston and G. A. Kettys and R. J. Copley, equal; J. M. Waggett.

### English III.

Class I.—R. H. Dobson.

Class II.—A. J. Law.

Class III.—W. Hyssop.

### Latin A.: Authors.

Class I.—J. F. Montgomery.

Class II.—M. Bishop and J. Blackmore, equal; I. Keane.

Class III.—N. Grant, R. C. Hargrave, H. Nolan, A. Johnston, R. Porte.

### Latin A.: Prose.

Class I.—J. F. Montgomery.

Class II.—J. Blackmore, M. Bishop.

Class III.—N. Grant, R. C. Hargrave, R. Porte, H. Nolan, I. Keane.

### Latin I.: Authors.

Class I.—G. H. Holmes, B. McLaughlin.

Class II.—E. Fowler and W. H. Scott, equal; M. Millar, B. Brickman and J. G. White, equal; W. Davidson, K. Lavell, E. Anderson.

Class III.—J. G. Niddrie, W. Hyssop, E. Rodler, G. D. Misener and P. Young, equal; A. Wilson, W. H. D. Miller, G. Kettys, C. Beck.

### Latin I.: Prose.

Class I.—G. H. Holmes, B. McLaughlin.

Class II.—M. Millar, J. G. Niddrie, W. H. Scott, E. Fowler.

Class III.—B. Brickman, P. Young, C. Beck, J. G. White, W. Davidson, A. Wilson, G. D. Misener, E. Anderson and G. Kettys, equal.

**Latin II.: Authors.**

Class I.—A. E. Ottewell, E. T. Mitchell.

Class II.—L. Y. Cairns, J. R. Drysdale, F. S. McCall.

Class III.—Y. Blayney, M. E. Lloyd, R. H. Dobson, R. J. Copley.

**Latin II.: Prose.**

Class II.—A. E. Ottewell, Y. Blayney, E. T. Mitchell.

Class III.—L. Y. Cairns, M. E. Lloyd, F. S. McCall, R. H. Dobson, R. J. Copley.

**Greek I.**

Class II.—W. Davidson, E. T. Mitchell, J. G. Niddrie.

Class III.—G. Kettys, G. D. Misener.

**Greek II.: Authors.**

Class I.—A. E. Ottewell.

Class III.—A. L. Carr.

**Greek II.: Prose.**

Class II.—A. E. Ottewell.

Class III.—A. L. Carr.

**French A.**

Class I.—E. Fowler.

Class II.—M. Bishop.

Class III.—N. Grant, G. Duncan, H. Nolan.

**French I.**

Class I.—G. H. Holmes.

Class II.—W. H. Scott.

Class III.—C. Beck, M. Millar, P. Young, I. Keane, C. Rutherford.

### French II.

Class II.—L. Y. Cairns, Y. Blayney, M. Lloyd, E. Rodler.

Class III.—R. G. Copley, J. G. White, A. Wilson, E. Anderson, W. Hyssop.

### German A.

Class I.—J. Blackmore.

Class II.—C. Hargrave.

Class III.—C. Rutherford, A. Carmichael.

### German I.

Class I.—B. McLaughlin.

Class III.—K. Lavell.

### History I.

Class I.—E. Fowler, B. McLaughlin and W. H. Scott, equal; I. Keane.

Class II.—K. Lavell and G. H. Holmes, equal; J. Blackmore and B. Brickman and C. Easom and C. Rutherford, equal; H. Nolan and D. Simpson and P. Young, equal.

Class III.—W. H. D. Miller, N. Grant and M. Millar, equal; A. L. Elliott, B. Allen and C. Beck and W. Davidson and J. G. Niddrie, equal.

### History II.

Class I.—F. S. McCall, E. T. Mitchell and A. E. Ottewell, equal.

Class II.—M. Bishop, E. Rodler.

Class III.—J. R. Drysdale, L. Y. Cairns, A. L. Carr, G. A. Kettys, A. Wilson, J. M. Waggett, E. Anderson, G. D. Misener, R. C. Hargrave.

### Psychology and Logic.

Class I.—A. E. Ottewell.  
Class II.—A. J. Law, M. Bishop.  
Class III.—G. F. Driver, J. G. White, A. L. Carr, J. R. Drysdale, J. M. Waggett.

### Psychology (Special)

Class II.—E. T. Mitchell, A. J. Law.  
Class III.—R. H. Dobson.

### Philosophy III.

Class II.—E. T. Mitchell, F. S. McCall, A. J. Law.  
Class III.—G. A. Kettyls, R. H. Dobson.

### Physics I.

Class I.—B. Brickman, B. McLaughlin.  
Class II.—W. H. Scott, E. Fowler, N. Grant and P. Young, equal; J. Blackmore.  
Class III.—G. H. Holmes, L. Elliott, B. Allen, W. Davidson, M. Millar, A. Carmichael and J. Niddrie, equal; K. Lavell and J. R. Drysdale and W. H. D. Miller and H. G. Nolan and I. Keane, equal.

### Chemistry II.

Class II.—Y. Blayney, E. T. Mitchell, F. S. McCall.  
Class III.—R. C. Hargrave, G. D. Misener, A. J. Law, J. G. White, A. E. Ottewell, R. H. Dobson.

### Trigonometry.

Class I.—E. Fowler.  
Class II.—B. McLaughlin, G. H. Holmes, J. Blackmore, B. Brickman, J. G. Niddrie.  
Class III.—N. Grant and B. Allen, equal; P. Young, M. Millar, K. Lavell, W. H. Scott, W. Davidson.

### **Algebra I.: Arts.**

Class I.—E. Fowler.

Class II.—K. Lavell.

Class III.—B. Brickman, J. Blackmore, G. H. Holmes, B. McLaughlin, W. H. Scott, J. G. Niddrie; P. Young and W. H. D. Millar, equal; C. L. Beck and N. Grant and L. Elliott, equal.

### **Mechanics II.**

Class I.—W. M. Fife.

Class II.—O. Inkster.

Class III.—W. Draper.

### **Mechanics of Machines II.**

Class I.—W. M. Fife.

Class II.—W. Draper and O Inkster, equal.

### **Surveying II.**

Class I.—W. M. Fife.

Class II.—O. Inkster, W. Draper.

Class III.—J. W. Doze.

### **Analytical Geometry II.**

Class I.—W. M. Fife.

Class III.—W. Draper.

### **Chemistry II.**

Class II.—W. Draper, W. M. Fife.

### **Physics IV.**

Class I.—W. M. Fife.

Class II.—W. Draper.

Class III.—O. Inkster, C. Nimmons.

### Mapping II.

Class I.—W. M. Fife, W. J. P. Hyssop.  
Class II.—O. Inkster, J. W. Doze, W. Draper.

### Mechanical Drawing II.

Class I.—W. M. Fife, J. W. Doze, W. J. P. Hyssop.  
Class II.—W. Draper and O. Inkster, equal; C. Nimmons.  
Class III.—L. S. McKeen.

### Algebra I. (Science)

Class I.—M. Brown, J. F. Sells.  
Class II.—P. Hotchkiss, C. W. Ritson, J. W. Doze.  
Class III.—L. E. Harris, J. McQueen, H. M. Perron.

### Geometry (Solid and Conic) I.

Class I.—M. Brown.  
Class II.—H. M. Perron; J. W. Doze and J. F. Sells, equal;  
C. W. Ritson.  
Class III.—I. Grierson, H. Dixon and L. E. Harris and P.  
Hotchkiss and L. S. McKeen, equal.

### Physics III.

Class I.—J. F. Sells.  
Class II.—C. W. Ritson, M. Brown, J. Doze.  
Class III.—L. S. McKeen, H. M. Perron and J. McQueen,  
equal; L. E. Harris and P. Hotchkiss, equal; I. Grierson, J.  
Montgomery, H. Dixon.

### English Composition.

Class I.—J. F. Sells.  
Class III.—J. McQueen, M. Brown, C. W. Ritson, W. Reid,  
H. M. Perron and W. Taylor, equal.

### Dynamics I.

Class I.—M. Brown, C. W. Ritson, L. S. McKeen.

Class II.—P. Hotchkiss, J. W. Doze, L. E. Harris and J. F. Sells, equal, H. M. Perron, J. McQueen, H. Dixon.

Class III.—I. Grierson, J. Montgomery and W. S. Hyssop and R. Martin, equal.

### Descriptive Geometry I.

Class I.—C. W. Ritson, H. M. Perron, M. Brown.

Class II.—P. Hotchkiss, J. F. Sells.

Class III.—I. Grierson.

### Geometrical Drawing I.

Class I.—M. Brown, H. M., Perron, J. F. Sells.

Class II.—C. W. Ritson, P. Hotchkiss, L. E. Harris, I. Grierson, H. Dixon.

Class III.—J. McQueen, J. Montgomery, R. Martin.

### Freehand Drawing and Lettering I.

Class I.—M. Brown, I. Grierson, J. McQueen, H. M. Perron.

Class II.—H. Dixon, L. E. Harris, P. Hotchkiss, W. Reid, C. W. Ritson, J. F. Sells.

Class III.—R. Martin, J. Montgomery, W. Rogers, W. Taylor.

### Mechanical Drawing I.

Class I.—M. Brown, I. Grierson, P. Hotchkiss, H. M. Perron, J. F. Sells, W. Taylor.

Class II.—H. Dixon, L. E. Harris, R. Martin, J. McQueen, J. Montgomery, C. W. Ritson.

Class III.—W. Reid.

### French A.

Class II.—C. W. Ritson.

Class III.—W. Taylor, L. E. Harris, W. S. Hyssop, I. Grierson.

Winners of Scholarships.

**A. At the July examinations:**

Geo. H. Holmes, Milton Brown, Hudson Scott.

**B. At the term examinations:**

In Arts (in order of merit): Blanche McLaughlin, Elizabeth Fowler, Geo. H. Holmes.

In Science: Milton Brown.

These scholarships are of the value of \$50.00 each and are to be paid to the students at the beginning of the second year of their course.



## **Final Examinations**

**: : First Term : :**



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**Session of 1909-10**

Final Examinations

First Term

05-0081 to 05-0202

**FIRST YEAR.****English Literature.**

Monday, January 24th.—Morning, 9.30—12.30.

(Questions I, II, XI and XII must be answered. Of the rest omit any three.)

- I. Comment briefly on each of the following, giving the author wherever possible: The Phoenix, Widsith, Exodus, The Wanderer, The Pastoral Care.
- II. A country-bred youth goes to Arthur's court, endures humiliation and achieves knighthood. What does this motive suggest to you in connection with the general literature of Arthur?
- III. "Bote in a Mayes morning on Malverne hulles  
Me bifel a ferly, of fairie, me-thoughte."  
 (a) Comment on the metre of this quotation.  
 (b) Describe the context of this quotation, and tell what you know of the author, circumstances, and general idea of the poem as a whole.
- IV. "Swich fyn hath lo, this Troilus for love,  
Swich fyn hath al his grete worthinessse  
.....  
And thus bigan his lovinge of Criseyde,  
As I have told, and in this wyse he deyde."  
 (a) Modernize the above quotation and fill out the details of the story.  
 (b) Give the most important facts in the life of the author.

V. (a) What is the general plan of the Canterbury Tales?  
(b) Describe (1) the Monk and (2) the Povre Person as they appear in the Prologue.  
(c) What social evil of Chaucer's day is suggested by these two contrasted character-sketches?  
(d) Name two of Chaucer's contemporaries who attacked the same evil.

VI. (a) Define Humanism and state briefly the general changes brought about by the Renaissance.  
(b) Write a brief account of the life of Sir Thomas More as a typical Renaissance figure.

VII. (1) 'For though my ryme be ragged,  
Tattered and jagged,  
.....  
If ye take well therewith  
It hath in it some pyth.'  
(2) 'My lute, awake, perform the last  
Labour that thou and I shall waste,  
And end that I have now begun,  
And when this song is sung and past  
My lute, be still, for I have done.'

Give the sources of quotations (1) and (2). Contrast the two stanzas, and illustrate from them certain changes in English poetry in the sixteenth century.

VIII. (a) Describe the rhyme scheme and general form of a Petrarchan sonnet.  
(b) Of a Shaksperian.  
(c) At what time in Shakspere's career are his sonnets supposed to have been written?  
(d) What personal experiences of the poet's are they supposed to reveal?

IX. What is euphuism? Answer as fully as you can.

X. (a) What is tragedy?  
(b) Give a very brief summary of Gorboduc.  
(c) Of Dr. Faustus.  
(d) What is the essential tragic element in each?

XI. The Merchant of Venice.

- (a) Into what actions or stories may The Merchant of Venice be divided?
- (b) Suggest some of the devices by which Shakspere undertakes to combine them.
- (c) What is the exciting force of the plot?
- (d) The turning point?
- (e) Why does Shakspere remove the most important character from the play before the fifth act?
- (f) Can you suggest reasons for the occasional use of prose instead of blank verse in the play? Cite instances from the play and comment on them.

XII. The Merchant of Venice.

Describe the context of each of the following quotations:

1. "Hath not a Jew eyes?"
2. "Thy plainness moves me more than eloquence  
And here I choose."
3. "O upright judge! Mark, Jew: O learned judge!"
4. .... "What should I say, sweet lady?  
I was enforced to send it after him;  
I was beset with shame and courtesy;  
My honour would not let ingratitude  
So much besmear it."

## FIRST YEAR.

### English Composition.

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Monday, January 24th.—Afternoon, 2—3.

- I. What are the essentials of a good exposition? Answer at length in connected, well-developed paragraphs.
- II. Write a letter to a friend who is hesitating in his choice between two colleges. Give reasons why he should choose (or not choose) yours.
- III. Criticize, and rewrite as the case demands, the following sentences:—
  1. The old walnut desk stands on a platform, elevated several feet above the floor, somewhat like a throne—such a lonesome place for the teacher to occupy.
  2. He has often told me, how coming to his estate he found his parishioners very irregular; and to make them kneel and join in the responses, he gave everyone of them a hassock and a common prayer-book; and employed an itinerant singing-master who goes about the country, to instruct them rightly in the tunes of the psalms; upon which they very much value themselves and outdo most of the country churches that I have heard.
  3. Slowly the scene faded as the train rushed on, leaving the limits of the great city, but ineffaceably stamped upon my memory, it remains as fresh and vivid as on that quiet morning.

## FIRST YEAR.

### Latin Authors.

Monday, January 31st.—Morning, 10—12.

I. Indicate briefly the part played in the events of the year 63 B. C. by (1) C. Antonius: (2) Sempronius: (3) Manlius: (4) P. Umbrenus: (5) Volturcius: (6) Cato.

II. Translate carefully into English:—

Pulchrum est bene facere rei publicae, etiam bene dicere haud absurdum est; vel pace vel bello clarum fieri licet; et qui fecere et qui facta aliorum scripsere, multi laudantur. Ac mihi quidem, tametsi haudquam par gloria sequitur scriptorem et actorem rerum, tamen in primis arduum videtur res gestas scribere: primum quod facta dictis exaequanda sunt; dehinc quia plerique quae delicta reprehenderis, malivolentia et invidia dicta putant, ubi de magna virtute atque gloria bonorum memores, quae sibi quisque facilia factu putat, aequo animo accipit, supra ea veluti ficta pro falsis dicit.

(a) What was the Roman opinion of literature generally under the Republic? Of history in particular? What does Sallust give as his object in writing history?

III.—Translate:—

Sed ubi ille adsedit, Catilina, ut erat paratus ad dissimulanda omnia, demisso voltu, voce supplici postulare a patribus coepit ne quid de se temere crederent; ea familiā ortum, ita se ab adulescentia vitam instituisse, ut omnia bona in spe haberet; ne existumarent sibi, patricio homini, cuius ipsius atque majorum plurima beneficia in plebem Romanam essent, perdita re publica opus esse, cum eam servaret M. Tullius, inquilinus civis urbis Romae. Ad hoc male dicta alia cum adderet, obstrepare omnes, hostem atque parricidam vocare. Tum ille furibun-

dus, “Quoniam quidem circumventus,” inquit, “ab **ini-**  
**micis** praeceps agor, in eendum meum ruina restin-  
guam.”

(a) Explain carefully the meaning of Catiline's threat.

IV. Translate:—

Omnia mala exempla ex rebus bonis orta sunt; sed ubi imperium ad ignaros eius aut minus bonos pervenit, novum illud exemplum ab dignis et idoneis ad indignos et non idoneos transfertur. Lacedaemonii devictis Atheniensibus triginta viros imposuere, qui rem publicam eorum tractarent. Et primo coepere pessimum quemque et omnibus invisum indemnatum necare; ea populus laetari et merito dicere fieri. Post, ubi paulatim licentia crevit, iuxta bonos et malos lubidineose interficere, ceteros metu terrere; ita civitas servitute oppressa stultae laetiae gravis poenas dedit.

(a) What is the application of the above in Caesar's argument? (b) Can Caesar's position regarding the punishment of the conspirators be explained on grounds other than those he advances?

V. Translate:—

“M. Tulli, quid agis? Tunc eum quem esse hostem comperisti, quem ducem belli futurum vides, quem exspectari imperatorem in castris hostium sentis, auctorem sceleris, principem coniurationis, evocatorem servorum et civium perditorum, exire patiere ut abs te non emissus ex urbe sed immissus in urbem esse videatur? Non hunc in vincula duci, non ad mortem rapi, non summo suppicio mactari imperabis? Quid tandem te impedit? Mosne maiorum? at persaepe etiam privati in hac re publica perniciosos civis morte multaverunt. An leges, quae de civium Romanorum suppicio rogatae sunt? At numquam in hac urbe qui a re publica defecerunt, civium iura tenuerunt. An invidiam posteritatis times? Praeclarum vero populo Romano refers gratiam, qui te hominem per te cognitum, nulla commendatione majorum, tam mature ad summum imperium per omnis honorum gradus extulit, si propter invidiae aut alieuius periculi metum salutem civium tuorum neglegis.”

(a) What is Sallust's verdict upon this oration? What was its effect upon Catiline?

VI. Translate at sight:—

Quae cum ita sint, patres conscripti, providete ne populo Romano deesse videamini. Habetis consulem ex plurimis periculis et insidiis atque ex media morte non ad vitam suam sed ad salutem vestram reservatum. Omnes ordines ad conservandam rem publicam mente, voluntate, voce consentiunt. Obsessa facibus<sup>1</sup> et telis impiae coniurationis, vobis supplex<sup>2</sup> manus tendit patria communis; vobis se commendat, vobis vitam omnium civium, vobis arcem et Capitolium, vobis aras Penatium<sup>3</sup>, vobis illum ignem Vestae sempiternum, vobis omnium deorum tempa atque delubra,<sup>4</sup> vobis muros atque urbis tecta. Praeterea de vestra vita, de coniugum vestrarum atque liborum anima, de fortunis omnium, de sedibus,<sup>5</sup> de focis<sup>6</sup> vestrarum, hodierno die iudicandum est.

1.—Fax: torch. 2.—Supplex: suppliant. 3.—Penates: the gods of the household. 4.—Delubrum: shrine. 5.—Sedes: home. 6.—Focus: hearth.

## FIRST YEAR.

### Latin Prose Composition.

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Monday, January 31st.—Afternoon, 2 to 4.

- I. Decline in combination throughout singular and plural the Latin words for :— (a) this former plan; (b) each best citizen.
- II. Give the meanings and the principal parts of the following verbs :— (1) Possum (2) Malo (3) Veto (4) Augeo (5) Faveo (6) Gero (7) Cedo (8) Parco (9) Cogo (10) Decerno (11) Abicio (12) Cognosco (13) Patior (14) Proficis-  
cor (15) Reperio.
- III. Convert into Latin Indirect Narration depending upon “*Consul dixit*” the following paragraphs :—
  - (a) *Magna dis immortalibus habenda est atque huic ipsi Iovi Statori, antiquissimo custodi huius urbis, gratia, quod hanc tam taetram, tam horribilem, tamque infestam rei publicae pestem totiens iam effugimus. Non est saepius in uno homine summa salus perielitanda rei publicae. Quam diu mihi consuli designato insidiatus es, non publico me praesidio sed privata diligentia defendi. Cum proximis comitiis consularibus me consulem in campo et competitores tuos interficere voluisti, compressi conatus tuos nefarios amicorum praesidio et copiis. Denique, quotienscumque me petisti, per me tibi obstisti quamquam videbam perniciem meam cum magna calamitate rei publicae esse coniunctam.*
  - (b) *Quae cum ita sint, perge quo coepisti. Egredere aliquando ex urbe; patent portae; proficisci. Nimium diu te imperatorem illa Manliana castra desiderant. Magno me metu liberabis dum modo inter me atque te*

murus intersit. Nobiscum versari iam diutius non potes; non feram, non patiar, non sinam.

IV. Convert into Latin Direct Narration all such portions of the following paragraphs as are capable of the change:

(a) Ad haec Q. Marcius respondit: si quid ab senatu petere vellent, ab armis discedant, Romanum supplices proficiscantur; ea mansuetudine atque misericordia senatum populi Romani semper fuisse ut nemo umquam ab eo frustra auxilium petiverit.

(b) Inter haec parata atque decreta Cethegus semper querebatur de ignavia sociorum; illos dubitando et dies prolatando magnas opportunitates corrumpere; facto, non consulto in tali periculo opus esse, seque, si pauci illorum adiuvarent, languentibus aliis, impetum in curiam faceretur.

V. Translate into Latin:

(1) By discovering Catiline's plans the consul was able to save Rome from civil war.

(2) Tarquinius, having been expelled from Rome by the citizens, returned after a few days with an army to recover (recipio) his kingdom.

(3) Caesar returned quickly to his camp to avoid being cut off (prohibeo) from supplies.

(4) With great earnestness (gravitas) he affirmed that he had never despaired of the commonwealth and never would; what could a brave man desire more than the opportunity of fighting for his country?

(5) Caesar so placed his ambush (insidiae) that not one of the enemy escaped.

(6) Some urged him to surrender himself, others kept recommending (suadeo) him to flee.

(7) These things ought ye to have done, neither should ye have omitted those.

FIRST YEAR.

Greek Grammar and Sight Translation.

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Tuesday, February 1st.—Morning, 10—12.30

- I. Decline in combination throughout singular and plural the Greek words for:—
  - (1) this rougher road;
  - (2) the other large stream.
- II. Give in Greek the following verb-forms or verb-phrases:—
  - (1) They were being pursued; (2) You (pl.) were having;
  - (3) in order that we may loose ourselves; (4) O that they may come!
  - (5) Judge not thou!
  - (6) to be going to accompany;
  - (7) in order that he might be;
  - (8) those who write;
  - (9) the things that are written;
  - (10) she who is going to rule.
- III. Give the Greek adjectives corresponding to the following and compare the words you have thus given:—
  - (1) good (3 methods): (2) great: (3) much: (4) small
  - (2 methods): (5) wise; (6) heavy: (7) safe: (8) black:
  - (9) swift: (10) hostile.
- IV. Give the Greek adverbs corresponding to (1), (2), (3), (5), (7), (9) of question III, and compare the words you have thus given.
- V. Decline in full the three personal pronouns, and explain how to supply the missing cases of the 3rd personal pronoun.
- VI. Translate into Greek:
  - (1) The-man-who-is-going-to-be-King must be skilled in politics (=the things of the state), and experienced in warlike matters.

- (2) We believe that the Greeks were the most-devoted-to-learning of all the ancients.
- (3) Many youths came to Athens in order that they-might-hear-for-themselves the words of Plato.

VII. Translate into English:—

Colson's Greek Reader.

- (a) page 5, No. XV.
- (b) page 8, No. XXIII
- (c) page 24. No. V

## FIRST YEAR.

### French Authors.

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Thursday, January 27th.—Morning, 10—12.

#### I. Translate into English :

Walter, à Christian : Je puis vous raconter la chose depuis le commencement jusqu'à la fin, car je l'ai vue moi-même. Tenez, il y a juste aujourd'hui quinze ans que j'étais à cette même table avec Mathis, qui venait d'acheter son auberge depuis cinq ou six mois, Diederich Omacht, Johann Roeber, qu'on appelait le petit sabotier, et plusieurs autres qui dorment maintenant derrière le grand if, sur la côte. Nous ironnons tous là, tôt ou tard ; bienheureux ceux qui n'ont rien sur la conscience. Nous étions donc en train de jouer aux cartes et dans la salle se trouvait encore beaucoup de monde, lorsque sur le coup de dix heures, la sonnette d'un traîneau s'arrête devant la porte et presque aussitôt un Polonais entre, un juif polonais, un homme de quarante-cinq à cinquante ans, solide, bien bâti. Je crois encore le voir entrer, avec son manteau vert, garni de fourrures, son bonnet de peau de martre, sa grosse barbe brune et ses grandes bottes rembourrées de peau de lièvre.

- (a) Translate : i We are playing tennis.  
                                 ii We were playing the piano.
- (b) Who is the author of the play of which the foregoing is an extract?
- (c) Why did Mathis favor Christian's suit?
- (d) How did Mathis dispose of the Jew's body?

#### II. Translate into English :

Le valet de chambre le revêtit du costume que l'empereur avait l'habitude de porter, c'est-à-dire d'une culotte de casimir blanc, de bas de soie blanches, de longues bottes à l'écuypère avec

de petits éperons, d'un gilet blanc, d'une cravate blanche recouverte d'une cravate noire bouclée par derrière, du grand cordon de la Légion d'honneur, de l'habit de colonel des chasseurs de la garde décoré des ordres de la Légion d'honneur et de la Couronne de fer, enfin du chapeau à trois cornes. Ainsi vêtu, Napoléon fut enlevé de la salle le six mai, à cinq heures trois quarts, et exposé dans la petite chambre à coucher, que l'on avait convertie en chapelle ardente. Le cadavre avait les mains libres; il était étendu sur son lit de campagne; son épée était à son côté; un crucifix reposait sur sa poitrine et le manteau bleu de Marengo était jeté sur ses pieds. Il resta ainsi exposé pendant deux jours.

- (a) Explain what is meant by the underlined phrases.
- (b) Describe briefly Napoleon's life in St. Helena.

### III. Translate into English:

Je formai donc le dessein de m'enfuir. Je me levai quand je jugeai que Léonarde et Domingo reposaient. Je  pris la lampe et sortis du caveau en me recommandant à tous les saints du paradis. Ce ne fut pas sans peine que je démêlai tous les détours de ce nouveau labyrinthe. J'arrivai pourtant à la porte de l'écurie, et j'aperçus enfin l'allée que je cherchais. Je marche, j'avance vers la trappe avec une joie mêlée de crainte; mais hélas! au milieu de l'allée je rencontre une maudite grille de fer bien fermée et dont les barreaux étaient si près l'un de l'autre qu'on y pouvait à peine passer la main.

- (a) Write out the present indicative of the underlined verbs.
- (b) From what work is the foregoing extract taken and when was it written?
- (c) Relate briefly the hero's first attempt at playing the part of a highway robber.

### IV. Describe, as it is related by Lamartine in L'Histoire des Girondins, the flight of the royal family.

**FIRST YEAR.**

**French Composition.**

Thursday, January 27th.—Afternoon, 2—4.

**I.**

Dictation of unseen passage.

**II.**

Translate into French:

1. Although we like them, we do not often see them.
2. My friend used to go to bed at ten o'clock.
3. We have been working since morning.
4. He never complained of my conduct.
5. Books are our best friends.
6. Steel is much stronger than gold.
7. There is a great deal of coal in Alberta.
8. It is almost two hundred miles from Edmonton to Calgary.
9. Henry Irving used to act the rôle of the Polish Jew.
10. The train from the south arrives at half past three.
11. He is afraid I shall not be there.
12. I asked him for some ink.
13. Jasper Avenue is the widest street in Edmonton.
14. France is a republic.
15. People generally say that French is easy, but I am not so sure of that.

**III.**

Write a composition of not less than one hundred words in French on one of the following topics:

1. Le Juif Polonais.
2. L'Aventure de Gil Blas avec le Parisite.
3. Les Derniers Jours de Napoléon.

**FIRST YEAR.**

**German Composition.**

Friday, January 28th.—Afternoon, 2—4.

I.

Dictation of unseen passage.

II.

Translate into German :

1. My only sister has been away for two years, but is returning this evening.
2. Goethe was born in Frankfurt, but spent a good part of his life in the little city of Weimar.
3. The bookseller said he had not a single copy of Heine's works left.
4. Help me to do my work, and I will help you to do yours.
5. If you go without his seeing you, you will regret it.
6. Some people bother too much about what others say regarding them.
7. Schiller is one of the greatest of German poets.
8. We expect to reach Berlin on the thirtieth of January.
9. The twentieth century is Canada's as the nineteenth belonged to the United States.
10. Education is the first business of a democracy. (Demokratie).

III.

Translate into German :

On the day after the representation of *L'Ami des Femmes*, a comedy by Alexandre Dumas (the younger), the author's father sent him a letter congratulating him on the success of

the piece, and volunteering his own collaboration on a future one. The letter closed with a somewhat grandiloquent phrase: "If a guarantee is desired of my ability, I beg to refer you to Monte Christo and The Three Musketeers. The son replied: "Even if I did not know the great works you mention, I should gladly accept your offer on account of the high opinion my father evidently entertains of you."

IV.

A composition in German of not less than one hundred words on one of the following topics:

1. Friedrike Brion.
2. Die Journalisten.

## FIRST YEAR.

### German Authors.

Friday, January 28th.—Morning, 10—12.

#### I Translate into English:

Schmoeck: Wie kann ich bestehen bei solcher Behandlung? Wie kann ich ihm schreiben lauter Brillantes die Zeile für fünf Pfennig? Dabei kann ich nicht bestehen. Und deshalb will ich sehen, daß ich aus dem Geschäft herauskomme. Wenn ich nur könnte verdienen fünfundzwanzig bis dreißig Thaler, ich wollte in meinem Leben nicht wieder schreiben für eine Zeitung; ich wollte dann mein eigenes Geschäft anfangen, ein kleines Geschäft, das mich ernähren könnte.

- (a) What part does Schmock play in the development of the plot of *Die Journalisten*?
- (b) Comment on the word order of the passage and explain its significance.
- (c) Contrast the characters of Oldendorf and Bolz; what event brought about their friendship?

ii

#### Translate into English:

Das Verhältnis zu dem, was man liebt, ist so entschieden, daß die Umgebung wenig sagen will; aber daß es die gehörige, natürliche, gewohnte Umgebung sei, dies verlangt das Gemüt. Bei meinem lebhaften Gefühl für alles Gegenwärtige konnte ich mich nicht gleich in den Widerspruch des Augenblicks finden. . . . . Friedrike hingegen war in dieser Lage höchst merkwürdig. Eigentlich genommen, paßte sie auch nicht hinein; aber dies zeugte für ihren Charakter, daß sie, anstatt sich in diesen Zustand zu finden, unbewußt den Zustand nach sich modelte.

Wie sie sich auf dem Lande mit der Gesellschaft gebahrte, so tat sie es auch hier. Jeden Augenblick wußte sie zu beleben. Ohne zu beunruhigen, setzte sie alles in Bewegung und beruhigte gerade dadurch die Gesellschaft, die eigentlich nur von der Langeweile beunruhigt wird. Sie erfüllte damit vollkommen den Wunsch der städtischen Tanten, welche ja auch einmal von ihrem Kanapee aus Zeugen jener ländlichen Spiele und Unterhaltungen sein wollten. . . . Sie schien keinen andern Vorzug zu geben, als den, daß sie ihr Begehr, ihre Wünsche eher an mich als an einen anderen richtete und mich dadurch als ihren Diener anerkannte.

- (a) Write out the principal parts of the spaced verbs.
- (b) What incident of the Sesenheim episode is alluded to here?

### III.

Translate into English :

Die zweite Tochter vom Hause hatte mich ehemals geliebt, schöner als ich's verdiente, und mehr als andere, an die ich viel Leidenschaft und Treue verwendet habe. Ich mußte sie in einem Augenblick verlassen, wo es ihr fast das Leben kostete.

- (a) In what connection does Goethe make this statement?
- (b) Discuss Goethe's abandonment of Friedrike Brion. How does Bielschowsky justify or condemn Goethe's action?

**FIRST YEAR.**

**Descriptive Geometry.**

Friday, January 28th.—Morning 9.30—12.30.

**Note.**—Methods of construction must be indicated clearly by light penciled line; results to be shown in heavy pencil lines. Where clearness requires it subsections of questions must be worked separately. Diagram accompanies questions I, IV, V, VI and VIII.

- I. Complete the projections of the line AB and CD and of the figure EFGH, it being given that AB is 2" long, CD is inclined to the V.P. at  $45^\circ$ , and that the plane of the figure EFGH is inclined to the H.P. at  $45^\circ$  and to the V.P. at  $60^\circ$ .
- II. Show the projections of a rectangle ABCD whose plane is inclined to the H.P. at  $45^\circ$ , the side AB being 2" long and the side BC 3" long, horizontal,  $\frac{1}{2}$ " above H.P. and inclined to the V.P. at  $30^\circ$ . Show also an elevation on a plane making an angle of  $30^\circ$  with the line AB.
- III. At a point A,  $2\frac{1}{2}$ " above H.P. and  $\frac{1}{2}$ " in front of V.P. two lines AB and AC meet at an angle of  $60^\circ$ . The line AB is 3" long, inclined to the H.P. at  $45^\circ$  and parallel to the V.P.; the line AC being 2" long and inclined to the H.P. at  $30^\circ$ . Show their projections. What is the inclination of AC to the V.P.?
- IV. (a) Find the dihedral angle between the given planes PQR and STU. (b) Show the traces of a plane which meets the given plane XYZ in the given line XZ.

V. A line is drawn from a given point P at an angle of  $45^\circ$  to the H.P. and  $30^\circ$  to the V.P. to meet the given plane RST in the point Q. Show the true length of PQ, and its inclination to the plane RST.

VI. In the given triangle ACB show the projections of (a) the circumscribing circle, (b) the bisector of the angle ABC, (c) the perpendicular from A to the slide BC.

VII. Show the plan and elevation of a regular hexagon of 1" side, the plane of whose figure is inclined to the H.P. at  $70^\circ$  and to the V.P. at  $50^\circ$ , given that one side is (a) horizontal and 1" above H.P. (b) at  $30^\circ$  to the H.P.

VIII. The projections of four points A, B, C, D are shown. Show (a) the length of the perpendicular dropped from A on the plane containing BCD. (b) The dihedral angle between the planes containing ABC and ACD. (c) The plane containing D and perpendicular to the line AB.

**FIRST YE.R.**

**Geometry.**

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Tuesday, January 25th.—Morning, 9.30—12.30

- I. The straight line joining the middle points of the two sides of a triangle is parallel to the base and equal to half of it. It also cuts off one quarter of the whole triangle.
- II. In every triangle the square on the side subtending an acute angle is less than the squares on the sides containing that angle, by twice the rectangle contained by either of these sides and the projection on it of the other.
- III. The angle in a semi-circle is a right angle; in a segment greater than a semi-circle is less than a right angle; and in a segment less than a semi-circle is greater than a right angle.
- IV. If from any point without a circle a secant and a tangent be drawn, the rectangle contained by the whole secant and the part without the circle is equal to the square on the tangent.
- V. Quote Euclid's definition of equal ratios, and illustrate it by reference to triangles of equal altitudes.
- VI. If two triangles are equiangular they are also similar.
- VII. By the use of similar triangles find
  - (1) A mean proportional
  - (2) A third proportionalto two given straight lines.

VIII. Describe a circle of given radius which shall pass through a given point and touch a given circle.

IX. Bisect a given triangle ABC by a straight line drawn through a given point P in the side AB.

X. Find (with proof) the escribed circle which touches the base of any triangle, and show that the tangent from the vertex is equal to half the perimeter of the triangle.

## FIRST YEAR.

### Physics.

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Wednesday, January 26th.—Morning, 9.30—12.30.

- I. State and illustrate Newton's three Laws of Motion.
- II. Obtain four formulae for accelerated motion, deducing them from fundamental principles.
- III. How many pounds of water can be pumped per minute from a mine 600 feet deep by a 75 H.P. pump ?
- IV. A force of 12 lbs. acts horizontally, and a force of 5 lbs. vertically, on a given body. Find the magnitude and show the direction of a single equivalent force.
- V. A car weighing 10 tons is pulled for 1000 feet up a track which rises 2 feet in every 100. What is the mechanical advantage of the track? What minimum force is required? How much work is done?
- VI. A string S supports a ten pound uniform beam 20 feet long, at a point A. Six feet to the right of A is suspended a weight of twenty pounds. If A is 8 feet from the right end of the beam, find the point for suspending a 25 lb. weight to preserve equilibrium, and also what weight the string S must be capable of sustaining.
- VII. State Boyle's Law and clearly describe the experiment to prove it.
- VIII. The density of a gas at  $0^{\circ}$  F. and 760 mm. pressure is 1.25 grams per litre. Find its density at  $200^{\circ}$  C and 840 mm. pressure.
- IX. State Pascal's principle of fluid pressure; also distinguish between conduction, convection and radiation; and explain how heat may be measured.
- X. State Pascal's principle of fluid pressure; also distinguish between conduction, convection and radiation; and explain how heat may be measured.

FIRST YEAR.

Geometrical Drawing.

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Monday, January 31st. Afternoon, 2—4.

**Note:** Drawings to be in pencil, methods of working clearly shewn and briefly described. A diagram accompaginies questions I., III. and VI.

- I. From a given point A draw a straight line which, if produced, would pass through the point of intersection of the two given lines BC and DE without producing the latter to intersection.
- II. Draw the second and fourth proportionals to two lines AB and CD which are  $2''$  and  $\frac{3}{4}''$  long respectively.
- III. Construct a triangle equal in area to the given polygon ABCDEFG.
- IV. Construct a triangle which shall be equal in area to a triangle ABC having its sides AB, BC and CA,  $1\frac{1}{2}''$ ,  $2\frac{1}{4}''$ , and  $1\frac{5}{8}''$  long respectively, and similar to a triangle DEF having its sides DE, EF and FD  $\frac{7}{8}''$ ,  $2\frac{1}{8}''$  and  $2\frac{3}{4}''$  respectively.
- V. Divide the triangle ABC whose sides are  $2\frac{1}{2}''$ ,  $3''$  and  $3\frac{3}{4}''$  respectively into four equal parts by lines drawn from a point  $\frac{3}{4}''$  away from B in the line BC.
- VI. Divide the given polygon ABCDEF into four equal parts by straight lines drawn from point D.
- VII. Describe a circle the circumference of which shall pass through the angles of a triangle whose sides are  $1''$ ,  $2''$  and  $1\frac{1}{2}''$  long respectively.
- VIII. Draw the common tangents to two given circles having radii of  $1''$  and  $1\frac{1}{4}''$  respectively.

## SECOND YEAR.

## English Literature.—Part I.

Monday, January 24th.—Morning, 10—12.

I. State the most important characteristics of the “Age of Classicism” in English literature, giving specific illustrations from your own reading.

II. Pope.

Explain each of the following quotations, and name and describe the poem from which each is taken :

- (a) “Learn hence for ancient rules a just esteem ;  
To copy nature is to copy them.”
- (b) .....To Love an altar built  
Of twelve vast French romances neatly gilt.”
- (c)(1) “But why then publish? Granville the polite  
And knowing Walsh would tell me I could write.”
- (2) “Should such a man, too fond to rule alone  
Bear, like the Turk, no brother near the Throne.”
- (d) “See how the world its veterans rewards !  
A youth of frolics, an old age of cards ;  
Fair to no purpose, artful to no end,  
Young without lovers, old without a friend ;  
A fop their passion, but their prize a sot ;  
Alive, ridiculous, and dead, forgot !  
Ah, Friend ! To dazzle let the vain design ;  
To raise the thought and touch the heart be thine.”

III. Swift.

- (a) “What is man but a microcoat..... To instance  
no more, is not religion a cloak....?” Base on

this passage a description of The Tale of a Tub.

What is Swift's explanation of his title?

(b) What is the Modest Proposal?

IV. The Novel in the Eighteenth Century.

(a) Give reasons based (1) on the general literature of the time and (2) on Richardson's personal experience, for his choice of the letter-form for his novels.

(b) Describe an episode from each of the following novels and comment on the relation of each novel to the development of fiction in the eighteenth century:

(1) Tristram Shandy.

(2) The Vicar of Wakefield.

(3) The Castle of Otranto.

## SECOND YEAR.

### English Literature.—Part II.

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Monday, January, 24th.—Afternoon, 2—4.

V. Suggest a reason for including each of the following in a discussion of the beginnings of the Romantic movement:

- (a) Dyer's Grongar Hill.
- (b) Shenstone's The Schoolmistress.
- (c) Thomas Warton's Sonnet Written at Stonehenge.
- (d) Gray's Ode from the Norse Tongue.

VI. Describe Goldsmith's Deserted Village (metre and subject matter). Would you classify this poem as classical or romantic? Discuss in detail.

VII. Note the points of contact between Cowper and Rousseau. Illustrate specifically from your readings in Cowper.

VIII. George Crabbe (1754-1832); William Blake (1757-1837): Contrast these two contemporaries.

IX. "Gie me ae spark o' Nature's fire,  
That's a' the learnin' I desire;  
Then, tho' I drudge thro' dub an mire  
At pleugh or cart,  
My Muse, though hamely in attire,  
May touch the heart."

- (a) Give a brief sketch of the author's life.
- (b) Contrast the point of view here expressed with the point of view of Pope's *Essay on Criticism*.
- (c) Name and describe three poems by the author of the above quotation which seem to you to be in accord with the spirit of the stanza.

X. Wordsworth.

- (a) What was Wordsworth's theory of poetry, and when and where was it expressed?
- (b) Does he carry out his theory in his poems? Illustrate specifically from your reading.
- (c) What change in Wordsworth's point of view is recorded in the *Tintern Abbey* lines?
- (d) Describe the poem in detail.

XI. Wordsworth.

Describe as minutely as you can :

- (a) The *Ode on the Intimations of Immortality*.
- (b) *Laodamia*.

XII. Wordsworth.

Describe each of the following sonnets, from the point of view suggested :

- (a) *London, 1802*. (Wordsworth's attitude toward his time).
- (b) *The World is too much with us*. (Wordsworth's attitude toward life).
- (c) *On the Sonnet*. (Wordsworth's art).

**SECOND YEAR.**

**Latin Authors.**

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Monday, January 31st.—Morning, 10—12

- I. Give an outline of the life of Horace, including (a) some statement as to his various works and the dates of their appearance, (b) a short analysis of his character.
- II. Translate carefully:—Odes I, 9, verses 9-24.
  - (a) Use this selection to characterize the Odes of Book I.
- III. Translate carefully:—Odes II, 10, verses 13-24.
  - (a) What advance is shown by the Odes of Book II over those of Book I?
- IV. Translate carefully—Odes III, 29, verses 29-41 (middle).
  - (a) What ode of Book III shows Horace's consciousness of literary success? Give its thought briefly.
- V. Translate carefully:—Odes IV, 1, verses 1-8.
  - (a) What light is thrown by these stanzas on the publication of the IVth Book of the Odes?
- VI. Translate carefully:—Epistles I, 1, verses 94-105.
  - (a) Where is Horace really more at home, in the Satires and Epistles or in the Odes? Give reasons for your answer.
- VII. Oral reading of Hexameters, Aleaics, and Sapphics

SECOND YEAR.

Latin Prose Composition.

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Monday, January 31st.—Afternoon, 2-4.

Translate into Latin:

(Write your version on alternate lines only).

When the battle began,<sup>1</sup> on one side<sup>2</sup> there was everything, general, rowers,<sup>3</sup> soldiers; on the other nothing except soldiers. The first to flee was Cleopatra herself. Antonius preferred to be the companion<sup>4</sup> of the fugitive queen than of his fighting soldiers, and so the commander who ought to have inflicted severe punishment<sup>5</sup> on the deserters, became a deserter of his own army. But, even when their leader had thus basely thrown them over,<sup>6</sup> they continued for a long time to fight gallantly and in despair of victory strove unto the death. Caesar, desiring to soothe<sup>7</sup> by words those whom he could have destroyed by the sword, cried out in a loud voice that Antonius had fled, and kept asking for whom and with whom they were fighting. At last the partizans of Antonius<sup>8</sup> laid down<sup>9</sup> their arms with reluctance, and surrendered to Octavianus, who promised them life and liberty with more alacrity than they were persuaded to ask for the same. It was generally agreed<sup>10</sup> that the soldiers of the enemy had played the part<sup>11</sup> of an excellent general, but the general that of a cowardly soldier, so that one may well doubt<sup>12</sup> whether he who fled at the bidding of Cleopatra would have employed<sup>13</sup> his victory according<sup>14</sup> to his own pleasure<sup>15</sup> or hers.

- 1.—ineo.
- 2.—pars.
- 3.—remex.
- 4.—comes.
- 5.—To inflict severe punishment: saevio.
- 6.—proicio
- 7.—mulceo.
- 8.—Antoniani.
- 9.—pono.
- 10.—It is agreed: constat.
- 11.—Say: performed the duty.
- 12.—Say: it may be rightly doubted.
- 13.—Form in -urus fuerit.
- 14.—ex.
- 15.—arbitrium.

SECOND YEAR.

Greek Authors.

Tuesday, February 1st.—Morning, 9—11.

(Plato's *Apology* of Socrates: ed. Williamson).

I. Translate:—Chapter III, line 4—line 19.

(a) With what classes of Greek thinkers was Socrates identified by a careless public opinion? Explain his objections to being placed in either of these groups. (b) What is the play of Aristophanes to which reference is made? Give some idea through modern analogies of the part the Old Comedy played in Athenian life?

II. Translate:—Chapter XIII, line 1—line 24.

(a) What is the name applied to this species of reasoning? Is it always quite fairly applied by Socrates within the limits of this speech? Be specific. (b) In what sense is Socrates said to be the founder of modern philosophy in its branches of politics, ethics, and metaphysics?

III. Translate:—Chapter XXXI, line 9—line 32.

(a) What are we to think of this “indwelling spirit” of Socrates? Examine it in the light of his own description. (b) Give Socrates's arguments with regard to the possibilities that are concealed in death.

IV. Explain briefly the constitution of the dicasteries, the range of cases of which they had cognizance, and the procedure in these courts for any particular case.

## SECOND YEAR.

## Greek Prose Composition.

Tuesday, February 1st.—Morning, 11.15—12.45.

Translate into Greek:—

(Write your version on alternate lines only).

Do you think then that I should have lived<sup>1</sup> so many years if I had-kept-on-doing<sup>2</sup> public business, and, acting as becomes<sup>3</sup> a good man, had-gone-on-assisting<sup>2</sup> the just, and, as one must, had-continued-to make<sup>2</sup> this of the chiefest importance? Far from it,<sup>4</sup> gentlemen of Athens, nor yet would any other man. But I through all my life both in-my-public-career,<sup>5</sup> if I did anything there, shall be found<sup>6</sup> such, and in-private-life<sup>7</sup> the same, having yielded<sup>8</sup> to no man contrary to what is just, neither to any other nor to any one of those who my slanderers say are my disciples. I never<sup>9</sup> was the teacher of any man; but if any one wishes to hear me speaking and doing my own business, whether younger or older, I never grudged-the-privilege<sup>10</sup> to any. And whether any one of these turns-out<sup>11</sup> good or not, I should not justly bear<sup>12</sup> the blame, since I promised no one of them instruction<sup>13</sup> at any time. And if any one says he learned from me in-private<sup>7</sup> what all the rest did not, be assured<sup>14</sup> that he is not speaking the truth.

Explanatory notes on blackboard.

## SECOND YEAR.

### French Authors.

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Thursday, January 27th.—Morning, 10—12.

#### I. Translate into English:

Que je sens de rudes combats !

Contre mon propre honneur mon amour s'intéresse :

Il faut venger un père ,et perdre une maîtresse ;

L'un m'anime le cœur, l'autre retient mon bras.

Réduit au triste choix ou de trahir ma flamme,

Ou de vivre en infame,

Des deux côtés mon mal est infini :

O Dieu, l'étrange peine !

Faut-il laisser un affront impuni ?

Faut-il punir le père de Chimène ?

(a) Who is the speaker and under what circumstances  
are the above lines spoken ?

(b) Comment on the metrical form.

(c) Scan the last five lines.

#### II. Translate into English:

C'est peu de dire aimer, Elvire, je l'adore ;

Ma passion s'oppose à mon ressentiment ;

Dedans mon ennemi je trouve mon amant,

Et je sens qu'en dépit de toute ma colère,

Rodrigue dans mon cœur combat encor mon père ;

Il l'attaque, il le presse, il cède, il se défend,

Tantôt fort, tantôt faible, et tantôt triomphant :

Mais, en ce dur combat de colère et de flamme,

Il déchire mon cœur sans partager mon âme ;

Et, quoi que mon amour ait sur moi de pouvoir,

Je ne consulte point pour suivre mon devoir ;

Je cours sans balancer où mon honneur m'oblige.

Rodrigue m'est bien cher, son intérêt m'afflige :  
Mon cœur prend son parti; mais, contre leur effort,  
Je sais que je suis fille, et que mon père est mort.

- (a) Who is the speaker?
- (b) Comment on the rôle of Elvire.
- (c) What is meant by saying that "Le Cid" is a "dub-bio"?

III. Translate into English.

Cet empire absolu sur la terre et sur l'onde,  
Ce pouvoir souverain que j'ai sur tout le monde,  
Cette grandeur sans borne et cet illustre rang,  
Qui m'a jadis coûté tant de peine et de sang,  
Enfin tout ce qu'adore en ma haute fortune  
D'un courtisan flatteur la présence importune,  
N'est que de ces beautés dont l'éclat éblouit,  
Et qu'on cesse d'aimer sitôt qu'on en jouit.  
L'ambition déplaît quand elle est assouvie,  
D'une contraire ardeur son ardeur est suivie;  
Et comme notre esprit, jusqu'au dernier soupir,  
Toujours vers quelque objet pousse quelque désir,  
Il se ramène en soi, n'ayant plus où se prendre,  
Et monté sur le faîte, il aspire à descendre.  
J'ai souhaité l'empire, et j'y suis parvenu;  
Mais en le souhaitant, je ne l'ai pas connu:  
Dans sa possession j'ai trouvé pour tous charmes  
D'effroyables soucis, d'éternelles alarmes,  
Mille ennemis secrets, la mort à tous propos,  
Point de plaisir sans trouble, et jamais de repos.

- (a) Who is the speaker and to whom are these words addressed?
- (b) In what respect does the conflict in Cinna resemble the conflict in Le Cid?

IV. (a) What is meant by the "unities"? What is Corneille's attitude towards them?

- (b) French tragedy before Corneille.
- (c) Balzac's realism as exemplified in Le Curé de Tours.

## SECOND YEAR.

### French composition.

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Thursday, January 27th.—Afternoon, 2—4.

#### I. Translate into French :

1. Whatever he says is right.
2. Is there a path that leads to Rabbit Hill?
3. After having examined it he gave it to her.
4. We should arrive in Toronto at a quarter past seven in the morning.
5. No matter; it is all the same to me.
6. Go to bed at once: you look tired.
7. If our friends had come, would you have consented?
8. M. Martin is said to be the tallest man in Paris.
9. The table is four metres long by two broad.

#### II. Translate into French :

“Gil Blas,” said my uncle to me one day, “the time of your boyhood is past. You are seventeen years old and a clever lad. You must think of striking out for yourself (*se pousser*). I have taken it into my head to send you to the University of Salamanca; with the wit I see you have you will not fail to find a good position. For your journey I will give you twenty ducats and my mule, which is worth ten or twelve pistoles. You will sell her when you arrive at Salamanca, and you will use the money to support yourself (*s'entretenir*) until you have a situation.”

#### III. A composition in French of not less than one hundred words outlining the plot of one of the following stories :

1. *La Messe de l'Athée*.
2. *Les Proscrits*.
3. *El Verdugo*.

SECOND YEAR.

Psychology.

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(Answer any six questions.)

Friday, January 28th.—Morning, 9.30—12.30.

1. Discuss the Greek conception of the soul. What is the conception prevalent in modern psychology?
2. Show how Plato's ethical and political theories are related to his psychology.
3. Explain Plato's theory of "ideas." Point out the difficulties involved in his theory and show how Aristotle seeks to overcome them.
4. Describe the construction of either the eye or the ear.
5. Show how by processes of vivisection the nerve centres of animals are capable of being specified.
6. How is habit to be explained physiologically. Write a note on the ethical and pedagogical importance of the principle of habit.
7. Discuss the appropriateness of the term "stream of consciousness." What is meant by the "topic" and "fringe" of thought. Explain and illustrate the selective character of consciousness.
8. Show how James analyses the "self as known."

## SECOND YEAR.

### History.

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Thursday, January 25th.—Morning, 9.30—12.30.

1. Describe the civilization of ancient Egypt.
2. Write a note on the Greek ideal and show how it is manifested in their religion, poetry, philosophy, architecture and sculpture.
3. Sketch the events leading up to the rise of the Athenian Empire.
4. Trace the causes of the fall of the Republic.
5. Give an account of the life and work of Charlemagne.
6. Outline the main crusades and discuss the general effect of the crusades upon Europe.
7. What constitutes the importance of the 13th century. Describe briefly Gothic architecture and compare it with the Romanesque.
8. Give an outline of the general development of European history up to the end of the mediaeval ages.

SECOND YEAR.

Chemistry.

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Wednesday, January 26th. —Morning, 9.30—12.30.

- I. What is the molecular weight of a substance of which, in its gaseous condition, one litre measured at 684 m.m. pressure and 131° C weighs 0.49233 gr. One litre of hydrogen weights 0.0899 gr.
- II. Give the general characteristics of the oxy-acids of the halogen group and compare iodic acid with these.
- III. Define the following terms as used in Chemistry:—  
(1) equilibrium (2) reversible reactions (3) dissociation  
(4) atomic weight (5) ion (6) valence (7) basic salt (8) basicity (9) oxidation (10) Catalitic action.
- IV. State how hydrogen peroxide may be prepared and describe its properties giving examples.
- V. Give six general methods by which chemical reactions may be assisted. Give examples.
- VI. Explain the decomposition of water by means of the electric current.
- VII. Describe the manufacture of sulphuric acid.
- VIII. Compare the bleaching action of chlorine with that of sulphur dioxide.

**SECOND YEAR.**

**Surveying.**

Thursday, January 27th.—Morning, 9—1.

I. Explain the construction and use of the needle compass. What degree of accuracy may be expected? Correct the following bearings for local attraction:—

Station	Foresight	Backsight
A	N $27^{\circ}15' E$	S $4^{\circ}0 S'E$
B	S $50^{\circ}45' E$	S $27^{\circ}15' W$
..	S $44^{\circ}00' W$	N $44^{\circ}25' W$
D	S $88^{\circ}45' W$	N $41^{\circ}15' E$
E	N $1^{\circ}45' W$	N $87^{\circ}30' E$

II. The angle between two tangents of a  $3^{\circ}$  curve is  $24^{\circ}45'$ . Write out a set of notes for running the curve setting out 100 ft. stakes taking B.C. as  $22+54$  and setting up the transit at B.C. and  $26+00$ .

III. State and describe the adjustments of the transit.

IV. Give a brief outline of the different systems by which the Dominion lands are laid out. Describe in detail the third system and point out where the others differ from it.

V. Describe the monuments which are used in general to mark the corners of townships, sections and quarter

sections giving their details as to relative position, marking and dimensions. Specify the exceptions and the modification of the general method made therefor. Show by a sketch the locality of a quarter section post, 40 chains south of which there is a post upon which is marked I, XV, IX. Show by a sketch what you would expect to find at this latter point.

VI. What errors are likely to occur in chaining and what is their effect? If the front chainman held the end of a 100 ft. chain 3 ft. too low in six out of ten measurements what percentage of error would be introduced thereby. Describe a method of making a detail survey with measuring and lining equipment only.

VII. Find the length and bearing of the line joining E to A in the following survey :

Line	Bearing	Chainage
A to B	N $22^{\circ}18'$ W	324
B to C	S $74^{\circ}28'$ W	468
C to D	S $3^{\circ}15'$ E	249
D to E	S $62^{\circ}50'$ E	516

VIII. The distance between two inaccessible points C and D on the face of a cliff is required. A line AB is staked out and measured and is 204 ft. in length. The horizontal angles, BAC, BAD, ABC and ABD are measured and found to be  $40^{\circ}18'$ ,  $110^{\circ}15'$ ,  $115^{\circ}54'$  and  $38^{\circ}49'$  respectively. The angles of elevation of C and D from A are found to be  $20^{\circ}18'$  and  $42^{\circ}25'$ . Calculate the distance from C to D.

## SECOND YEAR.

### Calculus.

Tuesday, January 25th.—Morning, 9- 1.

I. Differentiate the following, reducing the results to their simplest form :—

- (a)  $(1+x) \sqrt{1-x}$
- (b)  $e^x \cos x$
- (c)  $\log \tan^{-1} x$
- (d)  $x^x$
- (e)  $\log \frac{x}{\sqrt{1+x^2}}$

II. Integrate the following between the given limits

- (a)  $(ax+1) dx$  between the limits 2 and a.
- (b)  $\tan^2 x dx$  between the limits 0 and  $\pi/4$
- (c)  $\frac{xdx}{x^4+4}$  between the limits 1 and 2.
- (d)  $x \tan^{-1} x dx$  between the limits 0 and 1.
- (e)  $\frac{\log x}{x} dx$  between the limits 1 and 2.

III. Find, correct to the second decimal place, a value of  $x$  which will satisfy the equations :—

- (a)  $x^3+2x-13=0$ .
- (b)  $x^3-9=0$ .

IV. Find the equations of the tangents and normals at the point whose "y" value is 2 on the curves.

- (a)  $2y^2-x^3=0$ .
- (b)  $y=\log x$ .

V. Given the curve  $y^3=x^3+6x^2$ .

- (a) Show that the origin is a multiple point and discuss its nature.
- (b) Find the asymptotes to the curve.
- (c) Find the points of inflexion on the curve.

VI. Find the value of the radii of curvature at the points (2, 4) and (0, 0) on the curve  $y^2=8x$ .

VII. What is the maximum or minimum value of

(a)  $\frac{\log x}{x}$  (b)  $\frac{1+3x}{\sqrt{4+5x^2}}$  (c)  $\frac{1+\tan x}{\sin x}$

VIII. Find in terms of the radius (a) the area and circumference of a circle (b) the area and volume of a sphere.

(The integration of  $\sqrt{a^2-x^2}dx$  is equal to

$$\frac{a^2}{2} \sin^{-1} \frac{x}{a} + \frac{x}{2} \sqrt{a^2-x^2}.)$$

IX. Deduce the Moment of Inertia of (a) a triangle of base "b" and height "h" about the given base (b) a cone about an axis through the vertex perpendicular to the geometrical axis of the cone.

X. Find the position of the centre of gravity of:—

(a) The quadrant of a circle of radius r.

(b) The area between the curve  $y^2=4x$ , the axis of x and the ordinate at the point  $x=4$ .

## SECOND YEAR.

### Mechanics of Machines.

Friday, January 28th.—Morning, 9—1.

- I. Define briefly Machine, Mechanism, Constrained Motion, Higher Pairing, Links, Chains, Pairs of Elements.
- II. Discuss instantaneous centres. How may the locus of the instantaneous centres of the motion of a straight line be plotted? Prove that the various virtual centres of a mechanism having plane motion are arranged in threes, each three lying in a straight line whatever may be the position of the mechanism.
- III. In a quadratic crank chain the link "a" is 1" in length and is fixed, the links "b", "c" and "d" are  $\frac{3}{4}"$ ,  $1\frac{1}{4}"$  and  $\frac{1}{2}"$  in length respectively. Show three points in the locus of the virtual centre of the motion of "c" with respect to "a".
- IV. Plot the curve showing the motion resulting from the combination, on the same straight line, of two S. H. M.'s having the same amplitude and period but differing  $\frac{2}{5}$  in phase.
- V. Describe an approximate and an accurate straight line mechanism. Construct the latter and show four positions.
- VI. In a quadratic crank chain in which  $a = 1' 0''$ ;  $b = 2' 0''$ ;  $c = 3' 0''$ ;  $d = 4' 0''$  the link "b" is fixed and the crank "a" is given a uniform angular velocity of 2 radians per second. Find the angular velocities of "c" when "a" makes angles of  $60^\circ$  and  $120^\circ$  with the direction of "b". Find also the linear velocity of the middle point of "d" at these instants.

### THIRD YEAR.

#### English Literature.—The Novel.—Part I.

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Monday, January 24th.—Morning, 10—12.

- I.—Give a precise statement of the reading which you have done for this course.
- II. Outline the most important stages in the growth of Arthurian romance between the year 500 and the year 1500. Describe and comment on one of the romances which you have read.
- III. Comment on the relation to the early romances of each of the following works:
  - (a) Chaucer's Tale of Sir Thopas.
  - (b) Cervantes' Don Quixote.
  - (c) Beaumont's Knight of the Burning Pestle.
- IV. Describe Lodge's Rosalind and point out its merits and defects as a work of fiction.
- V. Comment briefly on the historical significance of:
  - (a) Lyly's Euphues.
  - (b) Sidney's Arcadia.
  - (c) Barclay's Argenis.

THIRD YEAR.

English Literature.—The Novel.—Part II.

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Monday, January 24th.—Afternoon, 2—4.

VI.—(a) Name two picaresque novels before Defoe's time.  
(b) What are the most important contributions made by Defoe to the art of fiction in England?  
(c) Describe an episode from one of Defoe's picaresque novels.

VII.—(a) What general tendencies and influences in the later seventeenth and early eighteenth century prepared the way for Richardson?  
(b) To what personal experiences was Richardson indebted for preparation for his work as novelist?  
(c) Does Richardson visualize the minor characters in Clarissa Harlowe? Give specific evidence for your opinion.

VIII. (a) Give a brief account of Fielding's opinions on the art of fiction, as these opinions are expressed in the several introductory chapters of *Tom Jones*.  
(b) Which is the more convincing character, Squire Allworthy or Squire Western? Give specific evidence for your opinion.

IX. (a) Richardson and Fielding are both realists: contrast them in this respect.  
(b) Richardson and Fielding are both said to be masters of plot structure: contrast them in this respect.

THIRD YEAR.

Philosophy.

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Friday, January 28th.—Afternoon, 2—4.

1. Discuss the relation of Socrates and the Sophists.
2. Explain Plato's Theory of Ideas.
3. Give an outline of Aristotle's Metaphysical Theory.
4. Write a note on Stoicism, and compare its ethical spirit with that of Christianity.
5. What are the main features of Neo-Platonism? Outline the Philosophy of Plotinus.

## THIRD YEAR.

### Philosophy.

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Tuesday, February 1st.—Afternoon, 2—4.

1. Write a note on the nature and function of Ethics.
2. Outline Aristotle's Ethical theory.
3. Discuss the theological and formalistic conceptions of good and bad.
4. What are the usual arguments in support of Pessimism, and how would you deal with them?
5. How are egoism and altruism to be considered in a consistent ethical theory?

## PHYSICS.

### Electricity and Magnetism.

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Saturday, January 29th.—Morning, 9.30—12.30.

**Note:**—Problem 4 or 10 with any other five problems will constitute a full paper.

- I. Define unit magnetic pole. Magnetic moment. State Coulomb's laws governing magnetic forces. What is unit intensity of field? What would be the force on unit N seeking pole in a field having an intensity of 500 gausses per sq. C.M.
- II. A compass needle having pole strength  $m$  and length  $2l$  is drawn  $0^\circ$  out of the magnetic meridian by a force  $F$  acting at right angles to the meridian. Prove that the couple drawing the needle back into the meridian is equal to  $H M \sin O$  and that  $F = H \tan O$ .
- III. What effect has polarization upon the EMF and the current of cells, how is it overcome in (a) single fluid cells (b) two fluid cells.  
The EMF of a Daniel cell is 1.08 volts and that of a Clark 1.434 volts, why does the former cell give the larger current when the resistance in the circuit is the same.
- IV. The axis of a magnet 20<sup>c.m.</sup> long is at right angles to the magnetic meridian and in line with the needle of a magnetometer, the distance "d" between the middle of the magnet and the needle is 50 c.m. If the needle is deflected  $45^\circ$  out of the meridian, what is the moment of the magnet. Take  $H = .175$ .

V. What is the practical unit of quantity called and give its equivalent value in absolute units. What quantity of electricity will flow through a straight conductor in 5 minutes when the strength of field 10 c.m. away from the conductor has a force of 8.8 dynes?

VI. A length of uniform wire of resistance 12 ohms is bent into a circle and two points at a quarter of the circumference apart are connected to a battery having a resistance of 1. ohm. and an e.m.f. of 3 volts; find the current flowing through the battery and through the two parts of the circle.

VII. Sketch the D'Arsonval galvanometer and explain the principles of its working. What is the difference between a volt meter and an a.m. meter; how can a large current be measured by an ammeter of small range.

VIII. What is meant by magneto motive force reluctance, and magnetic induction. What relation do they bear to each other and what effect has permeability upon this relation?

IX. What is the resistance of 5 miles of Aluminium wire  $\frac{1}{2}$  c.m. in diameter and having a specific resistance of  $K = 2.889 \times 10^{-6}$  ohms.

X. Describe an experiment by which the horizontal intensity of the earth's magnetic field may be determined.



## **Final Examinations**

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## **Session of 1909-10**



## FIRST YEAR.

### English Composition.

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May 23rd. Afternoon, 2—3.

I. Write a report (as for a college newspaper) of some recent event that has interested you.—(30 min.)

II. Reconstruct and rewrite the following paragraph:

Evidently that gate is never opened. The long grass and the great hemlocks grow close against it. If it were opened it is so rusty that great force would be required to turn it on its hinges. This would be likely to pull down the square stone-built pillars. And it would work to the detriment of the two stone lionesses which grin with a carnivorous affability. Beneath them is a coat of arms surmounting the pillars. It would be easy enough, by the aid of the nicks in the stone pillars to climb over the brick wall with its smooth stone coping. But by putting one eye close to the rusty bars of the gate, we can see the house well enough, and all but the very corners of the grassy enclosure.—(15 min.)

III. Write a theme of one paragraph on one of the following subjects:

1. The happiest looking student in the class.
2. The prairies (for a person who has never seen them.)  
(15 min.)

## FIRST YEAR.

### History of English Literature (to 1700)

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Monday, May 23rd, 1910.—Morning, 9—12.

- I. (a) What is a comedy? A tragedy? A tragi-comedy? A farce? Name one of Shakespeare's plays for each class. (b) Give the most important facts and dates in Shakespeare's life. (c) Comment fully on Shakespeare's statement in the Sonnets that he has made himself "a motley to the view."
- II. In the play Julius Ceasar, what does Brutus mean by saying as he runs upon his sword: "Caesar, now be still." Comment fully.
- III. (a) Summarize The Duchess of Malfi. (b) Name two tragic dramatists and two comic dramatists (with a play by each) among Shakespeare's immediate successors. (c) When were the theatres closed? Why?
- IV. (a) What are the most significant aspects of life in London depicted in Jonson's Alchemist? (b) In the prescribed selections from Dekker's Gull's Hornbook?
- V. Comment briefly on the literary significance of each of the following authors, and give the substance of the selection from each prescribed for your reading: (a) Robert Burton, (b) Sir Thomas Browne, (c) John Bunyan.

VI. (a) Summarize the first two books of *Paradise Lost*.  
(b) Give a more minute description of the passage in either book which impresses you most. (c) Give the date of the publication of *Paradise Lost*, and trace in Milton's career the development of the ideal of which *Paradise Lost* was the fulfilment.

VII. Briefly describe, and name the author of, each of the following poems: (a) Corinna's going a-Maying; (b) A Sonnet on having arrived at the age of twenty-three; (c) To Lucasta, going to the Wars; (d) An Epitaph on Salathiel Pavy; (e) A Thanksgiving to God for his House; (f) Drink to me only with thine eyes.

## SECOND YEAR.

### History of English Literature (1700 to the present)

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Monday, May 23rd, 1910. Morning, 9—12.

- I. State briefly the subject-matter of each of the following poems, name the author, and indicate in a few words the most significant characteristics of the author illustrated in the poem: (a) *Hertha*, (b) *The Cry of the Children*, (c) *A Grammarian's Funeral*, (d) *'Tis the last rose of summer*, (e) *Ode on a Grecian Urn*, (f) *Thyrsis*, (g) *The Two Voices*, (h) *To a Skylark*, (k) *Wages*, (1) *The Epilogue to Asolando*.
- II. Indicate as briefly as possible the nature of the influence exercised upon subsequent poetry by: (a) *Wordsworth*, (b) *Byron*, (c) *Browning*, (d) *Tennyson*, (e) *Swinburne*.
- III. Identify each of the following quotations; point out the significance of each in connection with the general spirit of the author (or source); and explain what the quotations have in common:
  - (a) "Behold, we know not anything;  
I can but trust that good shall fall  
At last—far off—at last, to all."
  - (b) "What was good shall be good, with, for evil so much  
good more."

(c) "But what was before us we know not,  
And we know not what shall succeed.  
Haply the River of Time  
As it grows, as the towns on its marge  
Fling their wavering lights  
On a wider, statelier stream—  
May acquire, if not the calm  
Of its early mountainous shore,  
Yet a solemn peace of its own."

(d) "Ah, make the most of what we yet may spend,  
Before we too into the Dust descend;  
Dust into Dust, and under Dust, to lie,  
Sans Wine, sans Song, sans Singer, and—sans End."

IV. Bring out by specific illustration the contrasted point of view in Lamb's Recollections of Christ's Hospital, and the same author's Christ's Hospital Five and Thirty Years ago. What are the most significant characteristics of Lamb's style? Contrast Lamb's personality and Coleridge's.

V. Contrast briefly Macaulay's theory of history and Carlyle's. Name works by each author which illustrate his theory. Comment briefly on the style of each author.

VI. Place each of the following characters of Nineteenth century fiction, stating briefly the part played by each in the development of the plot or in the episode in which the character most prominently figures: (a) Mrs Gleg; (b) Flora MacIvor, (c) Lord Mohun, (d) Uriah Heep, (e) Lord Castlewood, (f) Mr. Collins, (g) Mr. Darcy, (h) Philip Wakem.

VII. Name four of Dicken's novels; four of Thackeray's; contrast these two novelists in (a) range of material; (b) method and purpose in character-portrayal.

### THIRD YEAR.

#### History of English Fiction

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Saturday, May 21st, 1910.—Morning, 9—12.

- I. (a) Point out the essential differences between romantic and realistic fiction. (b) Name, as nearly as possible in chronological order, the most significant romantic novelists between 1740 and 1814; between 1814 and the present. (c) The most significant realistic novelists between 1740 and 1813; between 1813 and the present. (d) With the appearance of what important novels are the above dates associated? (e) Since the distinction between romanticism and realism is relative rather than absolute, illustrate from your reading for this course the union of the two elements in a single novel.
- II. Make a *brief* outline of the story of each of the following novels, and give the most important facts with regard to the author's literary significance; (a) *Tristram Shandy*, (b) *Caleb Williams*, (c) *Castle Rackrent*, (d) *Waverley*, (e) *Pride and Prejudice*, (f) *Henry Esmond*.
- III. Give the substance of George Meredith's theory of fiction as expressed in the *Idea of Comedy*, and illustrate his practice of the same in *The Ordeal of Richard Feverel*.
- IV. Compare and contrast George Eliot and Thomas Hardy. Illustrate from your reading for this course.

## FIRST YEAR.

### History.

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Monday, May 23rd. Afternoon, 4—5.

I. Define the term Constitution.

Distinguish between the Constitution and Common Law.

II. (a) Discuss the position of the Crown in the Legislative scheme of Great Britain.

(b) State three distinct powers once possessed by the Crown, now no longer claimed.

III. (a) Describe the steps in the formation of a Cabinet.

(b) Describe the statement "The King can do no wrong."

IV. Describe the process by which a Bill becomes an Act in the British Parliament.

**FIRST YEAR.**

**Latin Authors.**

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Wednesday, May 25th. Morning, 10—12.

J Roman Virgil, thou that singest Ilion's lofty temples  
robed in fire,  
Ilion falling, Rome arising, wars, and filial faith, and  
Dido's pyre;  
Thou that singest wheat and woodland, tilth and vine-  
yard, hive and horse and herd,  
All the charm of all the muses often flowering in a  
lonely word;  
Poet of the happy Tityrus piping underneath his  
beechen bowers,  
Poet of the poet-satyr whom the laughing shepherds  
bound with flowers;  
I salute thee, Mantovano, I that loved thee since my  
day began,  
Wielder of the stateliest measure ever moulded by the  
lips of man.

(a) Who is the author of these verses? (b) Upon what  
occasion were they written? (c) What work of Vir-

gil's is referred to in stanza one? Explain the details. (d) What works are referred to in stanzas two and three? (e) Explain the epithet 'Mantovano.' Give the dates of Virgil's birth and death. (f) What is referred to in the last line? What elements make it 'stateliest?'

II. Translate into English with due regard for word-order and diction: Aeneid I, 498-508 inclusive (p. 19).

(a) *Euroas...Cynthus*. Locate. (b) *Oreades*. Of what part of nature are they the nymphs? Name three other sorts, and explain the names. (c) Verse 505. Explain the plan of the temple. (d) Distinguish between *iura* and *leges*; *opus* and *labor*. (e) Scan completely verse 500.

III. Translate into English:

Aeneid I, 615-630 inclusive (pp. 22-3).

(a) Scan completely verse 622.

IV. Translate into English:

Aeneid II, 535-543 inclusive (p. 42).

(a) Write a note on use of *at* in 535. (b) *Tibi*. Who? (c) *Satum* (540). What would be the prose word? (d) Explain briefly the event referred to in lines 540 following. (e) Scan completely verse 536.

V. Translate at sight:

Aeneid III, 192-200 inclusive (p. 55).

*Ratis*: bark. *Caeruleus*: black. *Involvo*: enwrap.

## FIRST YEAR.

### Latin Prose Composition.

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Wednesday, May 25th. Afternoon, 2—4.

I. (a) State fully the Law of the Sequence of Tenses in Latin.

(b) Explain its application to the following sentences *without translating them.*

1. It is uncertain how long the life of any man will be.
2. He was so severely injured that he died a few hours later.
3. I shall not discuss what he says but what he did.
4. I went to him to ask why he was acting so.
5. I have done this that you may feel safe.

II. Explain with examples the nature and uses of the Gerund and Gerundive and discuss the extent of their interchangeability.

*OR*

Explain with examples the classification of Conditional Sentences in Latin.

III. Convert into Indirect Narration depending upon 'Caesar dixit' the following:

Hoc item vobis providendum est ne plus apud vos valeat P. Lentuli et ceterorum scelus quam vostra dignitas, neu magis irae quam famae consulatis. Nam si digna poena

pro factis eorum reperitur, novum consilium approbo; si magnitudo sceleris omnium ingenia exsuperat, his utendum censeo quae legibus comparata sunt.

IV. Translate into Latin:

1. The general said to his troops that the spot was very favorable (*aequus*) to them; why should they hesitate to join battle? Let them remember that they had often defeated this foe before.

2. The Senate decreed that he should tarry (*moror*) at Capua till reinforcements from the city arrived.

3. Unless he pays (*solvo*) me the money which he owes, I shall have to return home.

4. Having learned this, I wrote to ask him why he had not informed me of your arrival.

5. Before I return from Athens, I shall spend (*dego*) much time in reading the works of Aristotle (*Aristoteles*) and Plato.

6. It happened that he had not yet left my house when it was announced that Carthage was taken.

7. We must wait till the ships come; if they were here, I should urge you to attack (*adorior*) at once.

8. On the very day on which Cicero delivered (*habeo*) this speech, Catiline hastily completed (*perficio*) his plans and fled from Rome. (Use but one principal verb in Latin).

**SECOND YEAR.**

**Latin Authors.**

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Wednesday, May 25th. Morning, 10—12.

1. Give a brief account of (a) the magnitude of Livy's work, its title, and the manner in which it was brought out; (b) the amount of it surviving and the period thus covered; (c) our means of information as to the contents of the remainder.
2. Translate into English:—  
Book III, 35, 3-4-5-6. (Page 31).  
(a) With what party does Livy sympathize in his history of early Rome? What were his political affiliations in the Rome of his own day? Are the attitudes consistent?
3. Translate into English:  
Book VI, 35, 4-5. (Page 58.)  
(a) Why were these three measures carefully kept together by their promoters in an "omnibus bill?"
4. Translate into English:  
Book IX, 10, 8-9-10. (Page 79).  
(a) What phase of the Roman character is illustrated by this passage?
5. Translate into English:  
Book XXII, 44, 5-6-7. (Page 110).

(a) What is Livy's view as to the object of history?  
To what extent is this likely to damage his worth as  
an historian?

6. Translate into English at sight:  
Book XXVI, 11, 1-2-3-4. (Page 121).  
(The gods themselves intervene to save Rome from  
Hannibal).  
Grando: hail. Dirimo: to part, separate. Mens: incli-  
nation.

## SECOND YEAR.

### Latin Prose Composition.

Wednesday, May 25th. Afternoon, 2—4.

After dismissing his allies, Leonidas exhorted the Spartans, (saying that) they should<sup>1</sup> remember that they must fall<sup>2</sup> in any case<sup>3</sup>, and they should<sup>1</sup> not wait till they were surrounded by the enemy, but while night gave the opportunity should<sup>1</sup> come upon them unawares<sup>4</sup>; nowhere would they fall more honorably<sup>5</sup> than as victors in the foeman's camp. Nor was there anything to which it was difficult to persuade men who were already persuaded to die. At once they seized their arms, and, though they were but six hundred, they broke-into<sup>6</sup> the camp of five hundred thousand, and at once struck-for<sup>7</sup> the headquarters<sup>8</sup> of the king, having resolved either to die after slaying him, or, if they themselves were cut down first<sup>9</sup>, to perish in the very abode<sup>10</sup> of their mighty foe. Wild confusion thereupon reigned throughout the whole camp of the Persians, for the Spartans, not finding the king, roamed victorious through all the camp, conducting<sup>11</sup> themselves like-men-who<sup>12</sup> knew that they were fighting, not because they hoped for victory, but because they desired to avenge<sup>13</sup> their doom. At last, not conquered but exhausted with conquering, they fell amid heaps<sup>14</sup> of fallen foes, having achieved in their death an immortal<sup>15</sup> glory. What wonder<sup>16</sup> if Xerxes, after sustaining such a blow<sup>17</sup>, determined to try the fortune of the sea?

<sup>1</sup>Representing the command of direct speech. <sup>2</sup>Pereo.

<sup>3</sup>Utique. <sup>4</sup>Necopinans. <sup>5</sup>Honeste. <sup>6</sup>Irrumpo. <sup>7</sup>Peto. <sup>8</sup>Praetorium.

<sup>9</sup>Prius. <sup>10</sup>Sedes. <sup>11</sup>Gero. <sup>12</sup>Ut qui. <sup>13</sup>Ulciscor. <sup>14</sup>Strages. <sup>15</sup>Sempi-ternus. <sup>16</sup>Mirum. <sup>17</sup>Clades.

## FIRST YEAR.

### Greek Authors.

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Thursday, May 19th. Morning, 10—12.

- I. Translate into English with due attention to word-order and diction: *Odyssey IX*, 131-141.
  - (a) Write down the Attic forms, equivalent to the words which are *once* underlined.
  - (b) Explain the syntax of the constructions *doubly* underlined.
  - (c) What is here being described by Odysseus?
- II. Translate into English:  
*Odyssey IX*, 347-359.
  - (a) Write down the Attic forms equivalent to the words which are *once* underlined.
  - (b) Locate and explain the verb-forms *doubly* underlined.
  - (c) On the basis of this passage offer some comparison of the Homeric with the Virgilian epic.
- III. Translate into English:  
*Odyssey IX*, 528-535.
  - (a) Mention any traits of the Greek character which have been brought out in *Odyssey IX*.
- IV. Translate at sight:  
*Odyssey XII*, 142-153.

## FIRST YEAR.

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Thursday, May 19th. Afternoon. 2 4.

- I. Translate: Colson:—page 67, XIV.
- II. State clearly the law of vowel change in verb stems (Ablaut), and show how to apply this law in forming the principal parts of the Greek verbs for (1) 'I am born, I become,' (2) 'I leave,' (3) 'I stretch,' noting any formations in these verbs which are against the usual practice.
- III. In the case of each verb of the accompanying list state the theme and explain the method of forming the present stem therefrom.
- IV. Using the nine-column tense scheme (Present, Future, Aorist 1 Active, Aorist 2 Active, Perf. 1 Active, Perf. 2 Active, Perfect Middle, Aorist 1 Passive, Aorist 2 Passive) record the principal parts of the Greek verbs for (1) 'I throw,' (2) 'I have,' (3) 'I take,' (4) 'I see,' (5) 'I suffer,' (6) 'I announce,' (7) 'I destroy,' (8) 'I send,' (9) 'I happen on,' (10) 'I show.'
- V. (a) Distinguish the pairs of forms on the attached slip by (1) parsing (giving Mood, Voice, Tense, Number, Person), (2) meaning.  
(b) Give the Greek forms for:—they were standing, he set up; place thou (2d Aorist), we placed ourselves,

(2d Aorist); thou wast sending, to send (2d Aorist); let them give (present), in order that you may give (2d Aorist).

VI. Translate into Greek:

You will now perceive what-kind-of-men Solon and Croesus were. The one did not care for money (say: to the one there was no care of money); to the other money seemed of all things the best. He therefore asked Solon to tell him who was the happiest man he had found (say: whom he had found (aor. opt.) being happiest), thinking that Solon would say: 'Croesus of course; for he is of all men the richest.'

## SECOND YEAR.

### Greek Authors

Thursday, May 19th. Morning, 10—12.

- I. Outline the development of Attic tragedy, using your sketch to account for (a) the name "tragedy," (b) the tetralogic form of presentation with the concluding Satyric Drama, (c) the number of the chorus, (d) the conventional Doricisms of the chorus, (e) the nature of the tragic characters, (f) the messenger's speech, (g) the three-actor convention.
- II. Translate into English:—*Medea*, 292-304.
  - (a) What is the ordinary metre of Greek tragedy called? State fully all substitutes admissible in this species of verse. Scan completely verses 292 and 293. (b) Explain the personal feeling on the part of Euripides which may possibly underlie this speech.
- III. Translate into English.—*Medea*, 824-845.
  - (a) Pick out and comment upon special words or phrases in these verses which reveal the local pride of an Athenian. (b) Why does the importance of the chorus become less and less as tragedy develops? (c) Advance some explanation for the antistrophic form of tragic chorus.
- IV. Translate into English:—*Medea*, 1056-1080.
  - (a) How does Medea as a personality compare with the Athenian women of Euripides' day? May we suspect

any deeper purpose of Euripides in this comparison? Explain. (b) What light does this play reflect upon the traditional description of Euripides as a woman-hater? Advance suggestions as to the possible origin of such a tradition.

V. Translate into English:—*Medea* 1405-1414.

(a) Scan the last three lines. What is the metre? Describe it briefly. (b) Compare ancient and modern feeling as to the ending Euripides has given the play.

## SECOND YEAR.

### Greek Prose Composition.

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Thursday, May 19th. Afternoon, 2—4.

There was once a man at Athens, Ionides by name, who was so gentle-of-disposition<sup>1</sup> that he was never angry<sup>2</sup> with any man. Accordingly his friends were-wont-to-say that, if any one were to tread<sup>3</sup> on his foot, he would ask pardon<sup>4</sup> because he had been in the way<sup>5</sup>. Now in the same city there lived a lawyer<sup>6</sup> who had to examine<sup>7</sup> Ionides in the presence of the dicasts (say: the dicasts being present); for his brother was-on-trial<sup>8</sup> and Ionides was-on-hand as a witness. But when Ionides gave-evidence that his brother had done no wrong, the lawyer tried by abuse<sup>9</sup> to enrage<sup>10</sup> him in-order-that he might speak hastily before<sup>11</sup> the dicasts and be convicted<sup>12</sup> of false witness (say: being a false witness). He however, being so gentle, disregarded<sup>13</sup> the abuse and answered whatever he was asked truly and quietly<sup>14</sup>. Therefore the lawyer, perceiving that he was laboring in-vain<sup>15</sup>, himself got angry and said to the witness with a bitter smile<sup>16</sup>, ‘Go away, my friend, for I find that you are a very clever (=wise) person indeed!’ But Ionides, as quietly as before, answered as he was going, ‘I would be glad to say the same of you, friend, if I had not taken-oath<sup>17</sup> to tell the truth!’

Words numbered will have the Greek equivalent provided on typewritten slip.

**FIRST YEAR.**

**French Authors.**

May, 26th. Morning, 10—12.

**I**

Translate into English :

En nous entretenant de cette sorte nous nous avançâmes vers la maison, dont la porte nous fut ouverte, aussitôt que Scipion eut dit que c'était le Seigneur Gil Blas de Santillane qui venait prendre possession de son château. A ce nom si respecté des personnes qui l'entendirent prononcer, on laissa entrer ma chaise dans une grande cour où je mis pied à terre; puis, m'appuyant pesamment sur Scipion, et faisant le grand dos, je gagnai une salle où je fus à peine arrivé, que sept ou huit domestiques parurent. Ils me dirent qu'ils venaient me présenter leurs hommages comme à leur nouvelle patron: que don César et don Alphonse les avaient choisis pour me servir, l'un en qualité de cuisinier, l'autre l'aide de cuisine, un autre de marmiton, celui de portier, et ceux-là de laquais, avec défense de recevoir de moi aucun argent, ces deux seigneurs prétendant faire tous les frais de mon ménage. Le cuisinier, nommé maître Joachim était le principal de ces domestiques et portait la parole; il faisait l'agréable; il me dit qu'il avait fait une ample provision de toutes sortes d'excellents vins; et que pour la bonne chère, il espérait qu'un garçon comme lui, qui avait été six ans cuisinier de Mgr l'Archevêque de Valence, saurait composer des ragoûts qui piqueraient ma sensualité.

- (a) Distinguish the uses of the imperfect indicative and past definite tenses as exemplified in the foregoing citation.
- (b) Saurait (l. 21) : Distinguish between the use of *savoir* and *pouvoir* in the sense of *to be able*. Exemplify.
- (c) Relate concisely the career of Gil Blas from his arrival at his château till his final retirement.
- (d) Write a biographical note on the author of *Gil Blas*.

## II

Translate into English :

—Qu'est ce que j'ai?

Le douanier qui pleurerait s'il n'avait pas honte, répond :

—L'épaule traversée, mon ami. Ça guérira... Heureusement que nous faisions notre ronde par ici, quand vous êtes tombé dans le pré. Mon camarade est allé en bas, chercher le médecin. Au petit jour ils seront montés... Ne faites pas de chagrin... Qui êtes-vous?

Dans le demi-rêve Jean répond :

—L'Alsace...

A peine s'il peut parler. La pluie d'orage s'est mise à tomber. Elle martelle les toits, les planches des portes, les feuillages, les roches, toute la forêt qui enveloppe la maison. Les cimes se tordent et roulent comme des chevelures d'algues dans les eaux de la mer. Un murmure immense, ou un million de voix sont unies, monte le long des Vosges et s'élève dans la nuit. Le blessé écoute. Qu'a-t-il compris? Il est faible. Il sourit.

—C'est la France qui chante! murmure-t-il.

Et il retombe, les yeux clos, en attendant l'aube.

- (a) Explain the force of the tense in *seront montés* (l. 6)
- (b) What is the infinite of *clos*. (l. 19).
- (c) Translate into French :

1. Half an hour.
2. An hour and a half.
3. We could hardly speak.

(d) Write a note concisely describing the various characters in *Les Oberlé*.

## III

Translate into English :

Sous le hangar, Françoise n'avait pas bougé, accroupie en face du corps de Dominique. Le père Merlier venait d'être tué raide par une balle perdue. Alors comme les Prussiens étaient exterminés et que le moulin brûlait, le capitaine français entre le premier dans la cour. Depuis le commencement de la campagne, c'était l'unique succès qu'il remportait. Aussi, tout enflammé, grandissant sa haute taille, riait-il de son air aimable de beau cavalier. Et apercevant Françoise imbécile entre les cadavres de son mari et de son père au milieu des ruines fumantes du moulin, il la salua galamment de son épée en criant :

Victoire! victoire!

- (a) What is the title of the story from which the foregoing passage is quoted?
- (b) Who is the author of it?

2. Relate briefly the substance of the story entitled: *L'Arlesienne*.

## FIRST YEAR.

### French Grammar, Composition and Sight Translation

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May 26th 1910. Afternoon, 2—4.

#### I

Translate into French:

1. I told him to do it.
2. He cannot get along without books.
3. The weather was very cold last month.
4. I shall be there at twenty-two minutes to twelve at night.
5. You ought to have done your work.
6. If you should laugh, John would laugh too.
7. More than twenty-five men were killed.
8. The distance I have walked is not great.
9. I wish you would come.
10. Don't give him any.

#### II

Rabelais while dining one day with a cardinal whose physician he was, struck with his knife on the edge of a plate on which there was a lamprey (lamproie, f.) and said: "That is very indigestible." The cardinal, who thought a great deal about his health, immediately caused the plate with the lamprey to be taken away. Rabelais had it brought back to himself, and began to eat it as fast as he could. When the

cardinal noticed this, he said to him: "What, sir, you told me that lamprey was indigestible, and yet you are eating it with such good appetite?"

"You will pardon me," Rabelais answered, "I spoke of the plate, not of the lamprey."

### III

A composition of not less than one hundred words in French outlining the plot of René Bazin's novel "Les Oberlé."

### IV

Translate into English:

1.—L'espèce d'être vivant qui gisait sur cette planche le matin de la Quasimodo, en l'an du Seigneur 1467, paraissait exciter à un haut degré la curiosité du groupe assez considérable qui s'était amassé autour du bois de lit.

Ce n'était pas un nouveau-né que "ce petit monstre." (Nous serions fort empêchés nous-même de le qualifier autrement.) C'était une petite masse fort anguleuse et fort remuante, emprisonnée dans un sac de toile imprimé au chiffre de messire Guillaume Chartier, pour lors évêque de Paris, avec une tête qui sortait. Cette tête était chose assez difforme. On n'y voyait qu'une forêt de cheveux roux, un œil, une bouche et des dents. L'œil pleurait, la bouche criait, et les dents ne paraissaient demander qu'à mordre. Le tout se débattait dans le sac, au grand ébahissement de la foule qui grossissait et se renouvelait sans cesse à l'entour.

—Victor Hugo.

## SECOND YEAR.

## French Authors

May, 26th, 1910. Morning, 10—12.

## I

## 1. Translate into English:

Je suis médecin passager, qui vais de ville en ville, de province en province, de royaume en royaume pour chercher d'illustres matières à ma capacité, pour trouver des malades dignes de m'occuper, capables d'exercer les grands et beaux secrets que j'ai trouvé dans la médecine. Je dédaigne de m'amuser à ce menu patras de maladies ordinaires, à ces bagatelles de rhumatismes et de fluxions, à ces fiévreuses, à ces vapeurs, et à ces migraines. Je veux des maladies d'importance, de bonnes fièvres continues, avec des transports au cerveau, de bonnes fièvres pourprées, de bonnes pestes, de bonnes hydropisies formées, de bonnes pleurésies avec des inflammations de poitrine; c'est là que je me plais, c'est là que je triomphe; et je voudrais, monsieur, que vous eussiez toutes les maladies que je viens de dire, que vous fûtes abandonné de tous les médecins, désespéré, à l'agonie, pour vous montrer l'excellence de mes remèdes et l'envie que j'aurais de vous rendre service.

- (a) Distinguish *agonie* and *angoisse*. (l. 15).
- (b) Who is the speaker and under what circumstances is the above spoken?

## 2. Translate into English:

Nous serons par nos lois les juges des ouvrages;  
Par nos lois, prose et vers, tout nous sera soumis:

Nul n'aura de l'esprit, hors nous et nos amis.  
Nous chercherons partout à trouver à redire,  
Et ne verrons que nous qui sachent bien écrire.

(a) Who is the speaker and of what are the foregoing lines the programme?

(b) Explain the subjunctive in *sachent*. (l. 5).

3. Translate into English:

Je confesse mon faible; elle a l'art de me plaire:  
J'ai beau voir ses défauts, et j'ai beau l'en blâmer,  
En dépit qu'on en ait, elle se fait aimer;  
Sa grâce est la plus forte; et sans doute ma flamme  
De ces vices du temps pourra purger son âme.

(a) Who is referred to and by whom?

(b) *ait* (l. 3): explain the subjunctive.

(c) *Flamme*: comment on the use of the word in this sense.

4. What do you consider to be Molière's central thought or most characteristic mood?

Illustrate your opinion by referring to any four of his plays.

## II

1. Translate into English:

Ne réplique point, je connais ton amour;  
Mais qui veut vivre infâme est indigne du jour:  
Plus l'offenseur est cher, et plus grande est l'offense.  
Enfin tu sais l'affront, et tu tiens la vengeance;  
Je ne te dis plus rien; venge-moi, venge-toi,  
Montre-toi digne fils d'un père tel que moi;  
Accablé des malheurs où le destin me range,  
Je vais les déplorer; va, cours, vole et nous venge.

(a) Distinguish *connais* (l. 1) and *sais* (l. 4.)

- (b) Comment on the position of *nous*. (l. 8).
- (c) Who is the speaker and what is the insult alluded to?
- (d) What is the conflict in *Le Cid*? How is it decided? What is Corneille's attitude in late plays to similar problems?
- (e) Discuss Corneille's attitude toward the unities.

### III

1. Translate into English:

C'est cet amour, payé de trop d'ingratitude,  
Qui me rend en ces lieux sa présence si rude.  
Quelle honte pour moi! quel triomphe pour lui,  
De voir mon infortune égaler son ennui!  
Est-ce là, dira-t-il, cette fière Hermione?  
Elle me dédaignait, un autre l'abandonne:  
L'ingrate, qui mettait son coeur à si haut prix,  
Apprend donc à son tour à souffrir de mépris!...  
Ah, dieux!

- (a) Who are referred to in *lui* (l. 3) and *un autre* (l. 6.)
- (b) Scan ll. 3 and 4.
- (c) Discuss Hermione as a study in feminine psychology.
- (d) To what extent is the life of the seventeenth century reflected in the tragedies of Racine?
- (e) Outline briefly the life of Racine.

### IV

Describe concisely the two plays by Molière selected from the assigned collateral reading.

## SECOND YEAR.

### French Grammar, Composition and Sight Translation

May 26th. Afternoon, 2—4.

#### I

Translate into French :

1. Waken me to-morrow morning at half past five o'clock.
2. I do not see the fly, but I hear it breathe.
3. My father advised me never to meddle with state affairs.
4. Each of us fights for what he lacks most.
5. That man is much stupider than he looks.
6. His wife is afraid she will die.
7. How far is it to the nearest town?
8. A friend of mine, a poet, was asked what was the matter with him.
9. In my country they don't use whips now.
10. My youngest brother was never an early riser.

#### II

A Piece of Information.

“Pardon me my friend, how much time do I need to go from Corbigny to Saint-Révérien?”

The stone-breaker raised his head, and leaning on his hammer, he observed me through his spectacles without answering.

I repeated the question, but he did not answer. He is a deafmute, I thought, and continued my way.

I had hardly gone a hundred yards, when I heard the voice of the stone-breaker. He was calling to me and waving his hammer. I came back and he said to me:

“You will need two hours.”

“Why did you not tell me so at once?”

“You asked me, sir, how long it takes to go from Corbigny to Saint-Révérierien... It takes as long as it takes! It depends on the gait. Did you suppose that I knew your pace? So I let you walk a little way, and now I know you will need two hours.”

### III

A composition of not less than one hundred words in French outlining the plot of either:

(a) “*Le Cid*.”

or (b) “*Andromaque*.”

### IV

Translate into English:

Après la bataille.

Mon père, ce héros au sourire si doux,  
Suivi d'un seul housard qu'il aimait entre tous  
Pour sa grande bravoure et pour sa haute taille,  
Parcourait à cheval, le soir d'une bataille,  
Le champ couvert de morts sur qui tombait la nuit.  
Il lui sembla dans l'ombre entendre un faible bruit.  
C'était un Espagnol de l'armée en déroute  
Qui se traînait, sanglant, sur le bord de la route,  
Râlant, brisé, livide, et mort plus qu'à moitié,  
Et qui disait: “A boire, à boire par pitié?”  
Mon père, ému, tendit à son housard fidèle  
Une gourde de rhum qui pendait à sa selle,  
Et dit: “Tiens, donne à boire à ce pauvre blessé.”  
Tout à coup, au moment où le housard baissé  
Se penchait vers lui, l'homme, une espèce de Maure

Saisit un pistolet qu'il étreignait encore,  
Et vise au front de mon père, en criant: "Caramba!"  
Le coup passa si près que le chapeau tomba,  
Et que le cheval fit un écart en arrière.  
"Donne-lui tout de même à boire," dit mon père.

(Victor Hugo).

## FIRST YEAR.

### German Authors.

May 26th. Morning, 10 - 12.

#### I.

Translate into English :

Denkt an den Wechsel alles Menschlichen!  
Es leben Götter, die den Hochmut rechen!  
Berehret, fürchtet sie, die schrecklichen,  
Die mich zu Euren Füßen niederstürzen —  
5 Um dieser fremden Zeugen willen, ehrt  
In mir Euch selbst! entweihet, schändet nicht  
Das Blut der Tudor, das in meinen Adern,  
Wie in den Guern fließt — O Gott im Himmel!  
Steht nicht da, schroff und unzugänglich wie  
10 Die Felsenklippe, die der Strandende  
Vergeblich ringend zu erfassen strebt.  
Mein Alles hängt, mein Leben, mein Geschick  
An meiner Worte, meiner Thränen Kraft;  
Löst mir das Herz, daß ich das Eure röhre!  
15 Wenn Ihr mich anschaut mit dem Eisesblick,  
Schließt sich das Herz mir schaudernd zu den Strom  
Der Thränen stökt, und kaltes Grauen fesselt  
Die Flehensworte mir im Busen an.

- a. Decline in full *der Strandende*, (l. 10).
- b. What is the other plural form of *Worte*, (l. 11)?  
Distinguish the two in regard to meaning.
- c. Who is the speaker and under what circumstances are the above lines spoken?

II.

Translate into English :

Nun bei Gott!

Wenn ich so ganz unkönigliche Worte  
Aus meiner Königin Mund vernehmen muß,  
So wär's Verrat an meiner Pflicht, Verrat  
Am Vaterlande, länger still zu schweigen.

5 — Du sagst, du liebst dein Volk, mehr als dich selbst,  
Das zeige jetzt! Erwähle nicht den Frieden  
Für dich und überlaß das Reich den Stürmen.  
— Denk an die Kirche! Soll mit dieser Stuart  
Der alte Aberglaube wiederkehren?  
10 Der Mönch aufs neue hier herrschen, der Legat  
Aus Rom gezogen kommen, unsre Kirchen  
Verfliehen, unsre Könige entthronen?  
— Die Seelen aller deiner Unterthanen,  
Ich fordre sie von dir — Wie du jetzt handelst,  
15 Sind sie gerettet oder sind verloren  
Hier ist nicht Zeit zu weichlichem Erbarmen,  
Des Volkes Wohlfahrt ist die höchste Pflicht;  
Hat Shrewsbury das Leben dir gerettet,  
So will ich England retten — das ist mehr!

a. Who is the speaker, and under what circumstances are the foregoing lines spoken?

b. Wherein lies the subtlety of this appeal? Contrast it with that of Shrewsbury.

c. Write out the principal parts of *vernehmen* (l. 2);  
*schweigen* (l. 4); *überlasz* (l. 7).

d. Decline in full *den Frieden*. (l. 6).

e. *Zeit* (l. 16): What is the cognate English word?

III.

a. What is it that decides Elizabeth to sign Mary's death-warrant?

- b. What are the chief liberties that Schiller takes with historical truth in "Maria Stuart"?
- c. Point out how Schiller tries to show Mary both guilty and yet undeserving of her fate.
- d. Give some account of Schiller's other historical tragedies.

IV

Translate into English :

Das Fräulein (im Neglige, nach ihrer Uhr sehend) Franziska, wir sind auch sehr früh aufgestanden. Die Zeit wird uns lang werden. Franziska wer kann in den verzweifelten großen Städten schlafen? Die Karosseen, die Nachtwächter, die Trommeln, die Katzen, die Korporals — das hört nicht auf zu rasseln, zu schreien, zu wirbeln, zu mauern, zu fluchen, gerade, als ob die Nacht zu nichts weniger wäre als die Ruhe. — Eine Tasse Thee, gnädiges Fräulein? — Das Fräulein: Der Thee schmeckt mir nicht — Franziska: ich will von unsrer Schokolade machen lassen Das Fräulein: Laß machen, für dich! Franziska: Für mich? Ich wollte eben so gern für mich allein plaudern, als für mich allein trinken. — Freilich wird uns die Zeit so lang werden. — Wir werden von langer Weile uns putzen müssen und das Kleid versuchen, in welchem wir den ersten Sturm geben wollen

- a. What use does Lessing make of the political life of the time as a background for *Minna von Barnhelm*?
- b. What is Lessing's importance in the history of German Literature?
- c. Comment on the form of the word *Korporals* (l. 6).

V.

Translate into English :

Seht ihr den Regenbogen in der Luft?  
Der Himmel öffnet seine goldnen Thore,  
Im Chor der Engel steht sie glänzend da,  
Sie hält den ew'gen Sohn an ihrer Brust,

Die Arme streckt sie lächelnd mir entgegen.  
Wie wird mir? — Leichte Wolken heben mich —  
Der schwere Panzer wird zum Flügelkleide.  
Hinauf — hinauf — die Erde flieht zurück —  
Kurz ist der Schmerz, und ewig ist die Freude.

- a. Who is the speaker and under what circumstances are the lines spoken?
- b. What is Schiller's chief departure from historical truth in "*Die Jungfrau*"?
- c. Describe briefly the character and rôle of: Talbot, Thibaut d'Arc, Koenigin Isabeau, Lionel, Agnes Sorel.

SECOND YEAR.

Chemistry.

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Friday, May 27th. Afternoon, 2-4.

- I. Give an example of concentration (or pressure) and temperature being complimentary to each other in a chemical reaction; discuss this subject.
- II. Describe two methods in general use for obtaining silver from lead ores containing small percentages of silver.
- III. State what takes place when the following substances are heated in the atmosphere:—
  - (a) Calcium carbonate, (b) Potassium carbonate,
  - (c) Potassium nitrate, (d) Copper, (e) Silver nitrate,
  - (f) Lead nitrate, (g) Ammonium nitrate, (h) Mono calcium ortho phosphate.
- IV. Name the oxides of Lead; give the properties of the three most important of these and state how they may be prepared.
- V. Define the periodic law and discuss the properties of the compounds of the nitrogen group of elements in relation to this law.
- VI. Name the hydroxide of any metal which may act either as a base or as an acid, and state when it acts as an acid and when it behaves as a base.
- VII. Define the term "homologous series." Name three such series which are closely related to each other and describe how a substance belonging to one of these series may be transformed into substances belonging to the other two series.

## SECOND YEAR.

### History

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Friday, May 27 th, Morning, 9—12.

1. Write a note on the main ideals of the Renaissance.  
Point out the difference in the character of the Renaissance in the South and in the North.
2. Show how the political events of Europe affected the progress of the Reformation.
3. Comment as fully as possible upon the historical importance of the following: Machiavelli, Copernicus, Montesquieu, Rousseau, Richelieu.
4. Trace the events of the Revolutionary France from 1848 to 1875.
5. Give an account of the steps by which the unity of Germany was realized.
6. Outline the history of the Irish Question.
7. Give the historical setting of the following: The Council of Constance, The Edict of Nantes, The Congress of Vienna, The Treaty of Berlin, The Monroe Doctrine.

**SECOND YEAR.**

**Psychology and Logic**

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Wednesday, May 28th.—Morning, 9—12.

1. Write a note on the imagination.
2. Distinguish between “assimilation” and “complication”; “illusion” and “hallucination.”
3. Explain and illustrate “the law of the inhibition by habits” and “the law of the transitoriness of instincts.” Comment upon the pedagogical value of both laws.
4. Discuss the theory of “ideo-motor action.”
5. “The only meaning of essence is teleological and classification and conception are purely teleological weapons of the mind.” Explain and examine.
6. Discuss the relation of thought to reality.
7. Comment upon the significance of deduction and induction in the Logic of Aristotle, and in modern scientific method.

THIRD YEAR.

Philosophy.

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1st PAPER.

Wednesday, May 18th.—Afternoon, 2—4.

1. Discuss the relation of morality to religion.
2. What is the meaning of "Freedom" in Ethics.
3. What constitutes the essence of Culture?  
What is meant by "super-culture" and "half-culture"?
4. Write a note on the ethical significance of punishment.
5. "The attitude of mankind to new truths is *psychologically* necessary. It is also *teleologically* necessary." Explain
6. In how far can the view be accepted that "truth is that which works out in practice"?

**THIRD YEAR.**

**Philosophy**

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**2nd PAPER.**

Thursday, May 26th. Morning, 10—12.

1. Write a note on Scholasticism as represented by Thomas Aquinas.
2. Discuss the general character of the Philosophy of the Renaissance.
3. Give and examine Bacon's Theory or Induction.
4. Outline and criticize Hobbes' Theory of the State.
5. How is the relation of body and soul treated by Descartes, Spinoza and Leibnitz?
6. What does Locke mean by "substance"? Examine his distinction of "primary" and "secondary qualities."

**SECOND YEAR.**

**English Composition (Science)**

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- I. Write a letter applying for practical engineering work during the summer months.
- II. Write a one page theme giving an account of your outdoor practice work in the class in surveying.
- III. Describe clearly and without drawings, each of the following articles: (a) a surveyor's chain; (b) a surveyor's pin; (c) a plumb bob; (d) a tripod; (e) a T-square; (f) a set-square; (g) a pair of compasses.

## FIRST YEAR

### Algebra (First Paper)

Thursday, April 28th.—Morning, 10—12.

- I. Find the number of permutations of all the letters of the word "animal." In how many permutations do the vowels and consonants alternate? How many of the latter end with a vowel?
- II. State what conditions must be satisfied in order that the roots of the equation  $px^2+qx-r=0$  shall be (1) both real and unequal, (2) equal, (3) both imaginary, (4) one zero, (5) one an infinite.
- III. Find the value of the following determinant showing clearly the method used.

$$\begin{vmatrix} 1 & 3 & 2 & 5 \\ 2 & 3 & 4 & 1 \\ 3 & 2 & 1 & 5 \\ 1 & 4 & 5 & 3 \end{vmatrix}$$

- IV. Find the co-ordinate of the points in which the line joining (1, 5) to (2, 7) is divided externally and internally in the ratio of 2 to 3.
- V. (a) Find the G.P. whose second term is 4 and sum to infinity 9.  
(b) Find three numbers in A.P. whose sum is 39 and product 2184.

VI. One end of a line whose length is 13 is at the point (-4, 8), the ordinate of the other end is 3; what is its abscissa?

VII. Resolve into partial fractions (a)  $\frac{x^2+2x-1}{x(x+1)^2}$   
(b)  $\frac{5x^2-x+2}{x^3+x}$

VIII. Find without division the remainder when (a)  $x^5 - 4x^2 + 5$  is divided by  $(x+3)$  (b) when  $x^4 + 3a^2x^2 + 10a^3x + 2a^4$  is divided by  $(x+a)$ .

The method of solution must be shown and explained

FIRST YEAR.

Algebra (Second Paper)

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Thursday, April 28th. Afternoon, 2—4.

I. Expand and simplify three terms of the expansion of  
(a)  $(x+2)^5$  (b)  $(x-2)^{1/5}$  (c)  $(x-2)^{-5}$

II. Define convergency and divergency in a series. Test the following series for convergency or divergency,

(a) 
$$\frac{1}{5} + \frac{1}{7} + \frac{1}{9} + \frac{1}{11} + \dots$$

(b) 
$$\frac{1}{5^2} + \frac{1}{7^2} + \frac{1}{9^2} + \frac{1}{11^2} + \dots$$

III. Find the locus of a point which obeys the law that its distance from (1, 2) is always twice its distance from (3, 4).

IV. Write down the expansion of  $a^x$  as a function of x. Prove your result. What is "e" defined as before its numerical result is obtained?

V. The value of a cone varies jointly as its height and the area of its base; and when the area of the base is 30 square inches and the height 14 inches, the volume is 280 cubic inches. What is the area of the base of a

cone whose volume is 390 cubic feet and whose height is 26 feet.

VI. If the logarithm of "a" to the base 10 is 0.534 what is the logarithm of 1000 to the base "a".

VII. Find the co-ordinate of the points of intersection of the curve  $3y^2=16x$  with the curve  $x^2+y^2=25$ .

VIII. The vertices of a triangle are (4,-5), (2, 3) and (3,-6). Find the equation of the sides; also of the three medians; then find the coordinates of the point of intersection of two of these medians and show that these co-ordinates satisfy the equation of the other median.

## FIRST YEAR.

## Dynamics

Tuesday, April 26th, 1910. Afternoon, 2-4.

- I. Prove that if two component velocities be represented in magnitude and direction by the two adjacent sides of a parallelogram, the resultant is represented by the diagonal passing through their intersection.
- II. Derive and explain the following formulae:  
 (1)  $v = V \pm at$ . (2)  $S = Vt \pm \frac{1}{2}at^2$ . (3)  $v = V^2 \pm 2as$ .
- III. A body starts from rest with a uniform acceleration 32,  
 Find, (1) How far it travels in one second.  
 (2) How far it travels in five seconds.  
 (3) How far it travels in a fifth of a second.  
 (4) Its velocity at the end of five seconds.
- IV. Define Energy, Momentum.  
 A gun weighing 8 lbs discharges a one ounce ball with a velocity of 1,000 ft. per second. What will be the velocity of recoil of the gun?
- V. Find the horse-power of an engine which can raise 15,000 gallons of water per hour from the bottom of a shaft 1,100 feet deep assuming that a gallon of water weighs 10 lbs.
- VI. Find the resultant in position and magnitude of two parallel forces acting in the same direction.

VII. Two weights of 4 lbs each are hung on one side of a lever at distances of 5 inches and 9 inches respectively from the fulcrum. Find the vertical force which must act at 8 inches from the fulcrum to balance them.

VIII. Sketch a system of pulleys in which the weight is seven times the power.

IX. A body weighing 20 lbs rests on an inclined plane and is supported by a horizontal force of 15 lbs.

Find, (1) the pressure on the plane.

(2) what force parallel to the plane would support the body.

## SECOND YEAR

### Mechanics.

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Wednesday, April 27th.—Morning, 9—12.

**Note.**—Where necessary in the solution of a problem take  $g = 32$ .

- I. A body has an initial velocity of 50 feet per second and a constant acceleration of 5 feet per second in an opposite direction. When will the body come to rest? How far will it have gone? How long will it take to go a distance of 50 feet?
- II. A mass of 20 lbs. resting on a smooth horizontal table is attached by a string, passing over a pulley, to a mass of 4 lbs. hanging freely. If the system is released find the tension in the string and the velocity acquired by the 4lb mass after descending 5 feet.
- III. A mass of 4 lbs strikes a wall 2 feet thick with a velocity of 30 feet per second and emerges from the wall with a velocity of 10 feet per second. Assuming that the resistance of the wall is uniform, find the time of passage through the wall, resistance offered by the wall and the impulse given by the wall to the body.
- IV. A velocity  $v$ , is of magnitude 20 and a velocity  $v^2$  of magnitude 24 and inclined to the first velocity at an angle of  $45^\circ$ . Find (a) the resultant if  $v$ , and  $v^2$  (b) the change of velocity if  $v$ , is changed into  $v^2$ .

V. A body has an initial velocity of 2 feet per second and an acceleration in the direction of motion whose magnitude varies as the cube of the time. If the velocity after 3 seconds is 89 feet per second find the distance passed over and the velocity at the end of 6 seconds.

VI. A projectile whose angle of projection was  $60^\circ$  just passes over in its descent a wall 25 feet high, 350 feet away from the point of projection. Find the initial velocity and at what distance beyond the wall the projectile strikes.

VII. A mass of 8 lbs is attached to a string 2 feet long and while supported on a smooth horizontal table is whirled at a speed of 30 R.P.M. Find the tension in the string. If now the fixed end of the string be raised until the mass just clears the table but keeps its angular velocity find the tension of the string and its inclination to the table.

VIII. Find the length of a simple pendulum which marks half seconds.

IX. A mass of 10 lbs is suspended by two strings which make angles of  $30^\circ$  and  $60^\circ$  respectively with the vertical. Find the tensions in the strings.

X. A uniform rod whose weight is 50 lbs and whose length is 10 feet is freely suspended at one end. The other end is pulled out by a horizontal force until it is 6 feet from the vertical. Find the magnitude of this force and the direction and magnitude of the reaction at the point of suspension.

## SECOND YEAR

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### Mechanics of Machines

Thursday (April 28th. — Morning, 9—12.30.

- I. A direct acting steam engine is running at 75 R.P.M. Plot a polar diagram showing the linear velocity of the piston head for one complete revolution of the crank pin.
- II. In question (I) solve both analytically and graphically for the angular acceleration of the connecting rod when it makes an angle of  $90^\circ$  with the crank shaft.
- III. Discuss the inversions of the slider crank chain giving their names, their distinguishing features and an example of each.
- IV. Describe a mechanism for describing an ellipse. To what type of chain does it belong? What inversion of this type is it? Show the mechanism when marking at least one point, other than the ends of the axes, in each quadrant of an ellipse whose axes are 8 and 6 inches in length.
- V. In a pendulum pump the piston is moving at a velocity of 3 feet per second at the instant that the crank makes an angle of  $30^\circ$  with its direction. What is the angular velocity of the connecting rod at this instant the length of the lathe being 1.5 feet.
- VI. In a Whitworth quick return motion in which the fixed link is 15" long and the ratio of drive to return is

4.5, what will be the relative angular velocity of the block to the crank link when all the links are in the same straight line.

VII. Describe with sketches all the inversions of the Crossed Slider Crank Chain and of the crossed Double Slider Crank Chain.

VIII. In a quadratic crank chain the links a, b, c and d are 2, 2.3, 3 and 2.7 feet long respectively. Name the inversion resulting if (a) "b" (b) "c" is fixed. If "b" is fixed and "a" is given a uniform angular velocity of 3 radians per second what will be the angular velocity of "c" when it is inclined at an angle of  $60^\circ$  to the link "b".

## SECOND YEAR.

### Solid Geometry

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Friday, April, 29th. Morning, 9—12.

1. If a straight line is perpendicular to each of two intersecting straight lines at their point of intersection, it will be perpendicular to the plane which contains it.
2. If two straight lines meeting one another are respectively parallel to two other straight lines meeting one another, they will include equal angles.
3. If two straight lines are cut by three parallel planes they are cut proportionally.
4. Find the locus of a point equidistant from three given points.
5. The volume of a parallelepiped is equal to the product of its base and its altitude.
6. Find the content of a right angled cone one foot high.
7. Bisect the lateral surface of a right cone by a plane parallel to its base.
8. In a parabola a diameter bisects all chords parallel to the tangent at its extremity.
9. Construct a parabola having given two points on the curve and either the directrix or the focus.
10. In an ellipse there are two points on its plane such that the sum of their distances from any point on the curve is constant.

**SECOND YEAR.**

**Analytic Geometry.**

Tuesday, April, 26th.—Morning, 9—12.

1. (a) Find the equations of the bisectors of the angles between two straight lines.  
(b) Find the condition that the equation  $Ax^2 + By^2 + 2Hxy + 2Gx + 2Fy + C = 0$  represents two straight lines.
2. (a) A point moves so that the square of its distance from the origin equals twice the square of its distance from the X-axis. Find the equation of its locus.  
(b) Prove analytically that the medians of a triangle meet in a point.
3. (a) Find the condition that  $y = mx + b$  will touch the circle  $x^2 + y^2 = r^2$ .  
(b) Show that two tangents to a circle can be drawn from an external point.
4. Find the radical axis of the two circles  
$$x^2 + y^2 - 4x - 2y + 4 = 0$$
 and  $x^2 + y^2 + 4x + 2y - 4 = 0$ .  
and shew it is perpendicular to the line joining these centres.
5. Assuming that the sum of the focal distances of any point on an ellipse is constant. Determine its equation.

6. Find the equation of the tangent and normal at the positive end of the latus rectum of the ellipse  $x^2 + 4y^2 = 4$ . Find also the intercept in the x-axis in each case.
7. (a) Determine the equation of the ellipse with a focus at  $(1, -3)$ , with the line  $x + y - 7 = 0$  for directrix and eccentricity  $= \frac{1}{2}$ .  
(b) Determine: the centre, the semi-axes, the foci and the vertices of the ellipse.  
$$3x^2 + 9y^2 - 6x - 27y + 2 = 0.$$
8. Find the equation of a conic in polar co-ordinates the initial point being the focus and the initial line the X-axis.
9. Prove that the normal at one extremity of the latus rectum of a parabola is parallel to the tangent at the other extremity.
10. Find the equations of the tangent and normal to the hyperbola  $9x^2 - 16y^2 = 112$  at the point  $(4, 4)$  and find the subtangent and subnormal.
11. By removing the  $xy$ -term to the equation  $x^2 - 2xy + y^2 - 6x - 6y + 9 = 0$  determine its nature and position.
12. Show that the equation  $Ax^2 + 2Hxy + By^2 + 2Gx + 2Fy + C = 0$  represents an ellipse, a parabola or a hyperbola according as  $H^2 - AB$  is less equal to or greater than 0.

FIRST YEAR

Descriptive Geometry

Wednesday, April 27th. Afternoon, 2—5.

I. A right hexagonal prism, edge of base 1" height 3", is placed with its base parallel to and 1" above the H.P. the axis of the prism being 2" in front of V.P., and a vertical face of the prism at  $30^\circ$  to the V.P. When the rays of light are so inclined that their elevations and plans are at  $60^\circ$  and  $45^\circ$  to XY respectively, show the shadow cast by the solid on the planes of projection.

II. The axes of projection make angles of  $120^\circ$  and  $135^\circ$ . Represent the axometric projection of a right square pyramid edge of base 2" and altitude 4".

III. A right pentagonal pyramid, edge of base 1", height 3" lies on a face in H.P. with its axis parallel to the V.P. A vertical plane, which is inclined to the V.P. at  $30^\circ$  and whose H.T. intersects the plan of the axis  $1\frac{1}{4}$ " from the vertex, cuts the solid. Show the true shape of the section.

IV. Show the projections of a right circular cone, radius of base  $1\frac{1}{2}$ " height 4", which rests on the H.P. with its axis (1) parallel to V.P. (2) at  $30^\circ$  to V.P.

V. Show the projections of a cube of 2" edge given that a face is at  $45^\circ$  to the H.P. and that a diagonal of this face is horizontal and at  $30^\circ$  to V.P.

VI. Show the projections of a right triangular pyramid whose base is an equilateral triangle of  $1\frac{1}{2}$ " side and whose height is  $2\frac{1}{2}$ ". The plane of the base is at  $45^\circ$  to the H.P. and  $60^\circ$  to the V.P., one side of the base being at  $30^\circ$  to the V.P.

VII. A right circular cone radius of base  $1\frac{1}{2}$ ", axis 3", has its axis parallel to the V.P.,  $1\frac{1}{2}$ " in front of V.P. and at  $80^\circ$  to H.P. The cone rests with an edge of the base in H.P. From the vertex A a line AB is drawn at  $30^\circ$  to H.P. and  $45^\circ$  to V.P. Show the traces of all planes which contain this line and are tangential to the cone.

VIII. The centre of a sphere whose radius is  $1\frac{1}{2}$ " is a point 2" above H.P. and  $1\frac{3}{4}$ " in front of V.P. Show the traces of a plane which touches the sphere and contains the points A and B given that A is  $\frac{1}{2}$ " above the H.P.,  $\frac{3}{4}$ " in front of V.P. and 1" to the right of the centre of the sphere and that B is 1" above H.P.,  $1\frac{3}{4}$ " in front of V.P., and 2" to the right of the centre of the sphere.

IX. Show the plan and elevation of a right hexagonal prism one of whose faces is at  $70^\circ$  to the H.P., the edge of the base being 1" in length and the axis of the prism being 3" long and inclined to the H.P. at  $45^\circ$  and to the V.P. at  $30^\circ$ .

**FIRST YEAR**

Friday, April 29th, 1910.—Afternoon, 2—5.

**Note:**—All construction lines are to be dotted. Final results are to be shown in medium heavy lines. Question (2) is to be inked in, all other problems to be done in pencil. Methods of work must be clearly shown but no written description is necessary.

- I A triangle ABC has its sides AB, BC and CA, 3, 1 and  $2\frac{1}{2}$  inches in length respectively. Describe a circle to pass through C and touch AB at the point A.
- II Describe a circle to touch two circles whose radii are  $2\frac{1}{2}$  and  $1\frac{1}{2}$  inches in length and whose centres are 5 inches apart, it being required that the smaller circle be touched at a point 4 inches from the centre of the larger circle.
- III. Construct a regular octagon of  $1\frac{1}{4}$  inches side.
- IV. Construct an ellipse whose axes are 8 and 6 inches (1) by circular arcs (2) accurately by a smooth curve drawn through found points.
- V. Construct a parabola of double ordinate 10 inches and height 6 inches.
- VI. In a circle of 4 inches diameter inscribe a regular seven sided figure.

VII. Draw the common tangents to the two given circles in question (II).

VIII. A circle of 1 inch radius is tangential to the diameter of a semicircle of 2 inches radius at the centre of the semicircle. If the 1 inch circle be rolled around the outside of the semicircle until it is tangential to the circumference at the middle point of the arc of the semicircle, trace the path of the point on the rolling circle originally in contact with the centre of the semicircle.

IX. Two lines AB and BC are 3 inches and 4 inches long respectively and include an angle of  $120^\circ$ . A circle of  $1\frac{1}{4}$ " radius rests on the line AB touching it at the point A and is then rolled along AB, onto BC and along BC to C. Trace the path of the point on the circle originally in contact with A.

**SECOND YEAR**

**Surveying**

Friday, April 29th, 1910.—Afternoon, 2—5.

- I. What will be the distance from B.C. to P.I. on a  $2^{\circ} 45'$  curve connecting two tangents whose bearings are  $120^{\circ} 25'$  and  $162^{\circ} 55'$ ?
- II. Two tangents whose bearings are  $5^{\circ} 24'$  and  $67^{\circ} 49'$  are connected by a  $2^{\circ}$  curve through  $20^{\circ}$  running into a  $5^{\circ}$  curve for the remainder of the distance. If the chainage of the B.C. is  $24+62$  what would be the chainage of the P.I.?
- III. Write out a set of notes for running the curve in question (II) taking hubs at  $29+00$  and  $39+50$  and wherever else is necessary.
- IV. Describe the necessary additional attachment to a transit in order that stadia work may be done. Deduce the mathematical formulae and explain clearly how the constant of an instrument may be obtained by observations taken in the field. Illustrate by assuming an observation and working out your constant.
- V. Plot a profile of a relocation of the line from A to B shown on the contour map attached. The relocation is to be such that a uniform grade from A to B of 2.5 per cent. will necessitate as little cut or fill as possible. The relocation is to be shown on the map.

VI. The following observation was taken on Polaris on April 29th, 1909 in latitude  $52^{\circ} 30'$  N. What was the true bearing of the fixed

Position	H.C.R. on Mark	H.C.R. on Star	Sidral Time
C.R.	$150^{\circ} 34'$	$350^{\circ} 07'$	3 hr. 47 min. 52 sec.
C.L.	$330^{\circ} 34'$	$170^{\circ} 08'$	9 hr. 55 min. 10 sec.

R.A. of Polaris on April 29th, 1909—1 hr. 25 min. 22.7 sec.

Decl. of Polaris on April 29th, 1909— $88^{\circ} 49' 8.3''$  N.

## FIRST AND SECOND YEAR

### Physics.—Electricity and Magnetism

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Saturday, April 30th, 1910.—Morning, 9—12.

- I. How does the magnetism produced in iron depend upon the magnetizing force applied. Contrast the magnetic properties of soft iron, soft steel and hard steel, and use Ewing's Theory of Magnetism to explain the magnetization curve.
- II. Explain the Principle of the Wheatstone bridge method of comparing resistances. Why is the balance undisturbed when the battery and galvanometer are interchanged?
- III. 50 accumulators in series E.M.F. of each 2.2 volts and of negligible resistance, light forty 16 candle power lamps arranged in parallel, the current through each lamp is 0.65 amperes.

Find, (1) the resistance of each lamp,

- (2) the rate of working of the battery in watts and horse power,
- (3) the number of watts absorbed per candle power.

- IV. An electric motor having an efficiency of 90 per cent is placed on a 120 volt circuit, and when operating under load consumes 62.16 amperes. Calculate in horsepower the work the motor can do.

V. Name and explain the functions of the principal parts of an Electrical Generator.

VI. What effect has the density of air upon its conductivity? Describe any one interrupter used in high frequency currents.

VII. State briefly what you know about Kathode and Rontgen or X rays, and the phenomena produced by high frequency currents in tubes from which the air has been exhausted and replaced by other gases.

VIII. How may electric currents be induced in an electric circuit? What causes the extra current when a circuit is broken? What is meant by the coefficient of induction of any circuit? Name some of the commercial uses made of these effects.







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